

FinTech and Lending

Change: Change is impacting every industry, not just banking. Technology is fueling change.

Then



Now

NETFLIX



To Come



Retail Stores – Amazon – 3D Printing
Diners – Franchises – Whole Foods

Key Takeaway: Customer needs and wants are NOT CHANGING, rather the way they obtain them is, primarily through technology. So we must change our delivery channels and approach.

FinTech is a confusing concept to most bankers . . .

- Fintech is the advancement and delivery of, products and/or services to customers from financial institutions or intermediaries.
- It can be either disruptive or collaborative.
- Tons of money is being spent on FinTech – somewhat hit or miss!
- The need for Fintech is being driven by changing consumer desires.

Regulators are giving mixed signals on FinTech . . .

- OCC wants to issue FinTech charters, but they CAN NOT give FDIC Insurance.
- FDIC will apply the same standards and assessment criteria to FinTech applications as it does to any other denovo.
- As such, it appears that Banks will preserve their Competitive advantages of:
 - FDIC Insurance
 - Leverage
- Unless the new FDIC Chair changes direction

Who are the lending disruptors . . .

- Prosper – matches borrowers with lenders, including non bank lenders
- Network Capital Funding – heavy documentation automation
- Upstart – credit scoring plus other factors to determine likelihood of repayment
- SoFi – social finance to determine what loans people should be getting
- Unisource – mortgage lending with AI attributes
- Kabbage – on-line small business lending
- Fiserve – faster linkages among all customer products
- Lendup – lending without credit scores
- Oportun – loans to weak credit scores

Last winter, the FDIC looked at Credit Management Information systems . . .

- Focused on forward looking credit metrics
- Specifically addressed:
 - ✓ Loan Policy Exceptions
 - ✓ Underwriting Trends
 - ✓ Loan Grading
 - ✓ Concentrations
 - ✓ Risk Appetite

And recent exams are focusing on . . .

- Stress testing
- Relaxed credit standards
 - ✓ Amortization terms
 - ✓ Interest Only
 - ✓ Policy Exceptions
 - ✓ Unrealistic cap rates
- Increasing concentrations
- Incentive compensation programs

Results from a recent ABA study on digital lending . . .

- Digital Loan Origination is 10% of all originations
 - ✓ Mortgages – 82%
 - ✓ Consumer Loans – 58%
 - ✓ Small Business Loans – 28%
 - ✓ Commercial Loans – 11%

What is holding others back . . .

- Biggest hurdles
 - ✓ Integration with CORE systems – 60%
 - ✓ Compliance – 57%
 - ✓ Cost – 53%
 - ✓ Customer experience – 53%
 - ✓ Marketing the platform – 40%
 - ✓ Managing fraud – 27%

Top ten conclusions from the ABA study . . .

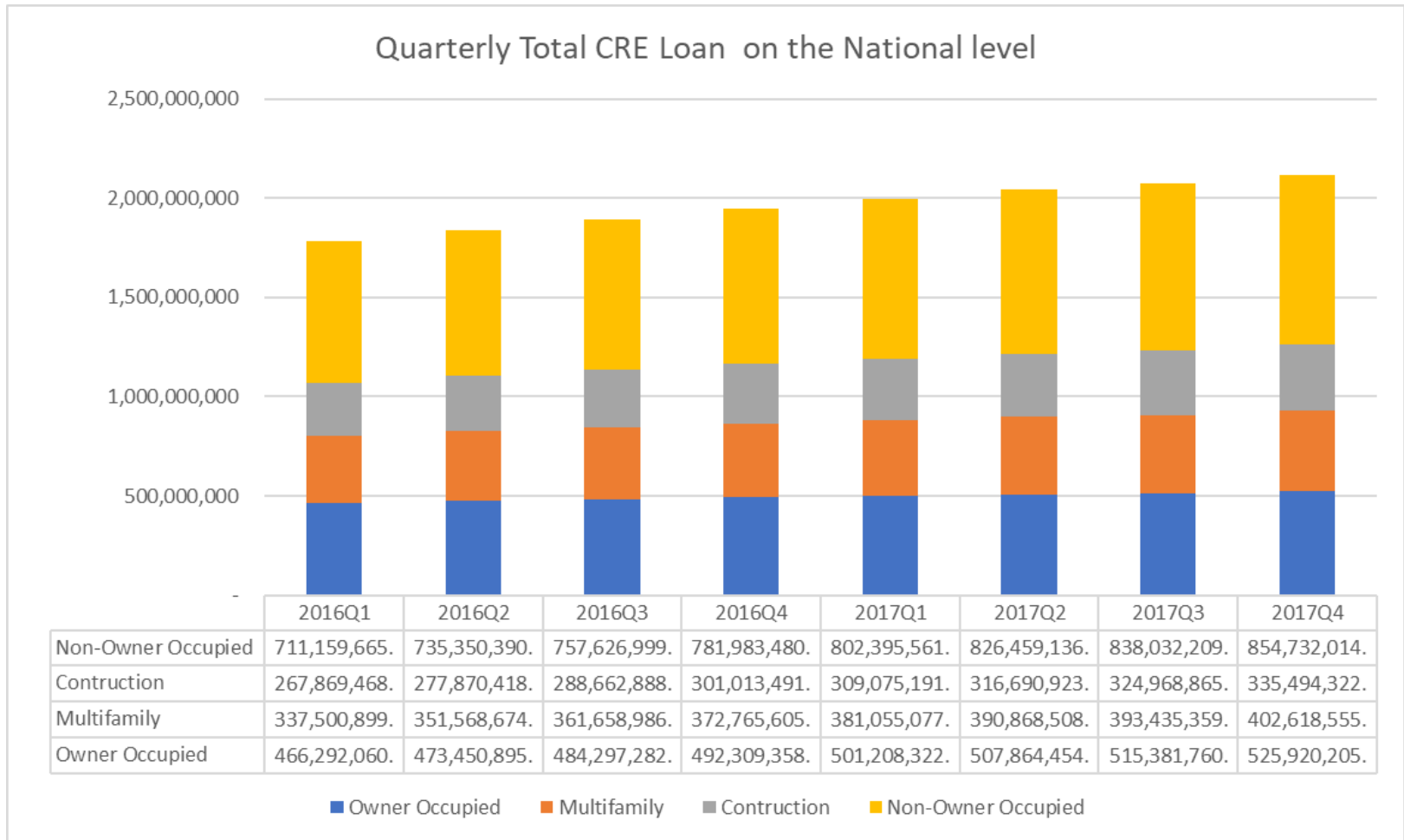
1. Banks must embrace digital lending
2. Non-bank digital lending is growing fast
3. Banks can not lag in technology adoption
4. Digital lending can open new business opportunities
5. Digital lending can be white labeled
6. SaaS is a strong option
7. Banks can remain in control
8. Fintech partnerships can be synergistic
9. Technology is there today
10. ABA has fintech resources

Industry Lending Trends

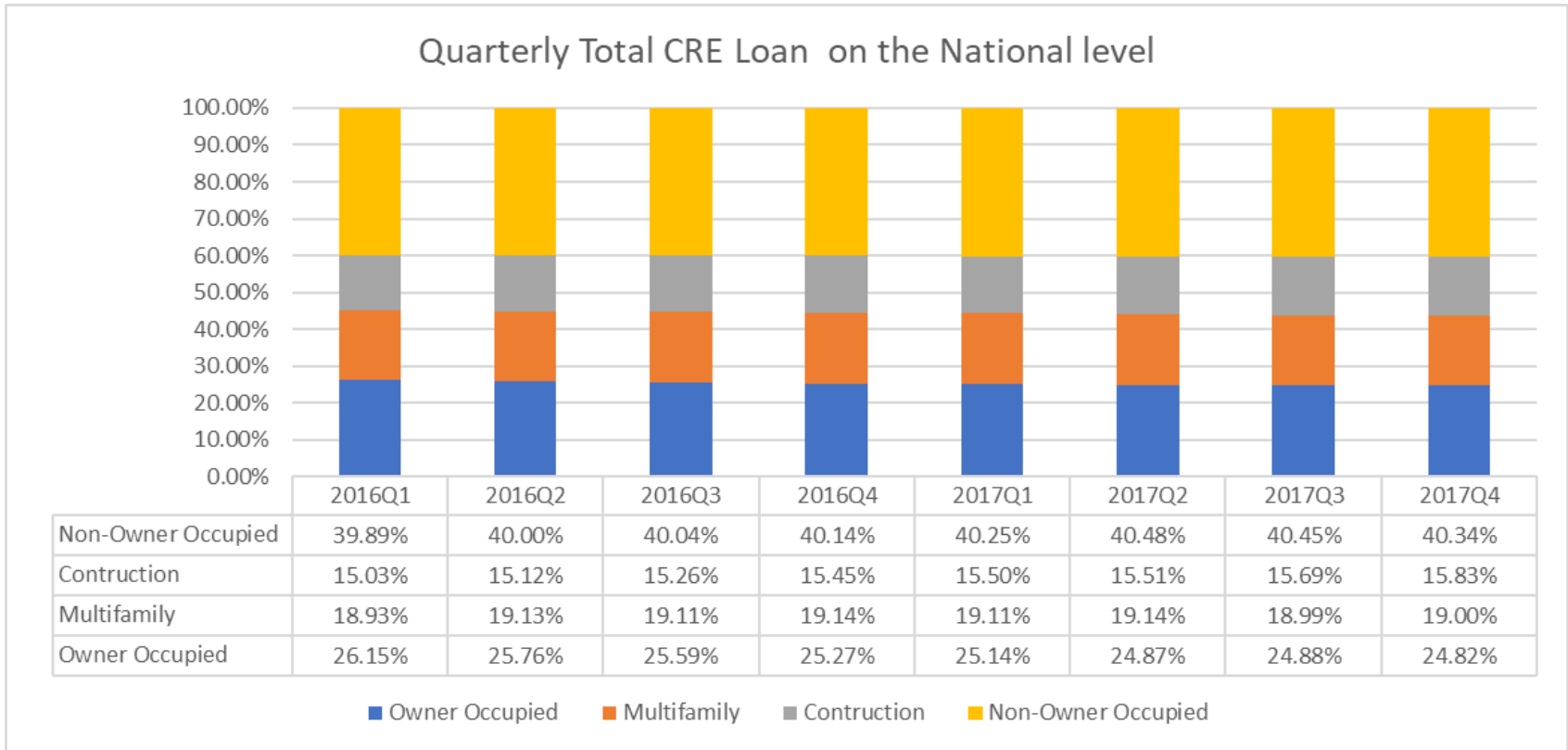
Total commercial real estate loans outstanding significantly increased increase since 2012 . . .



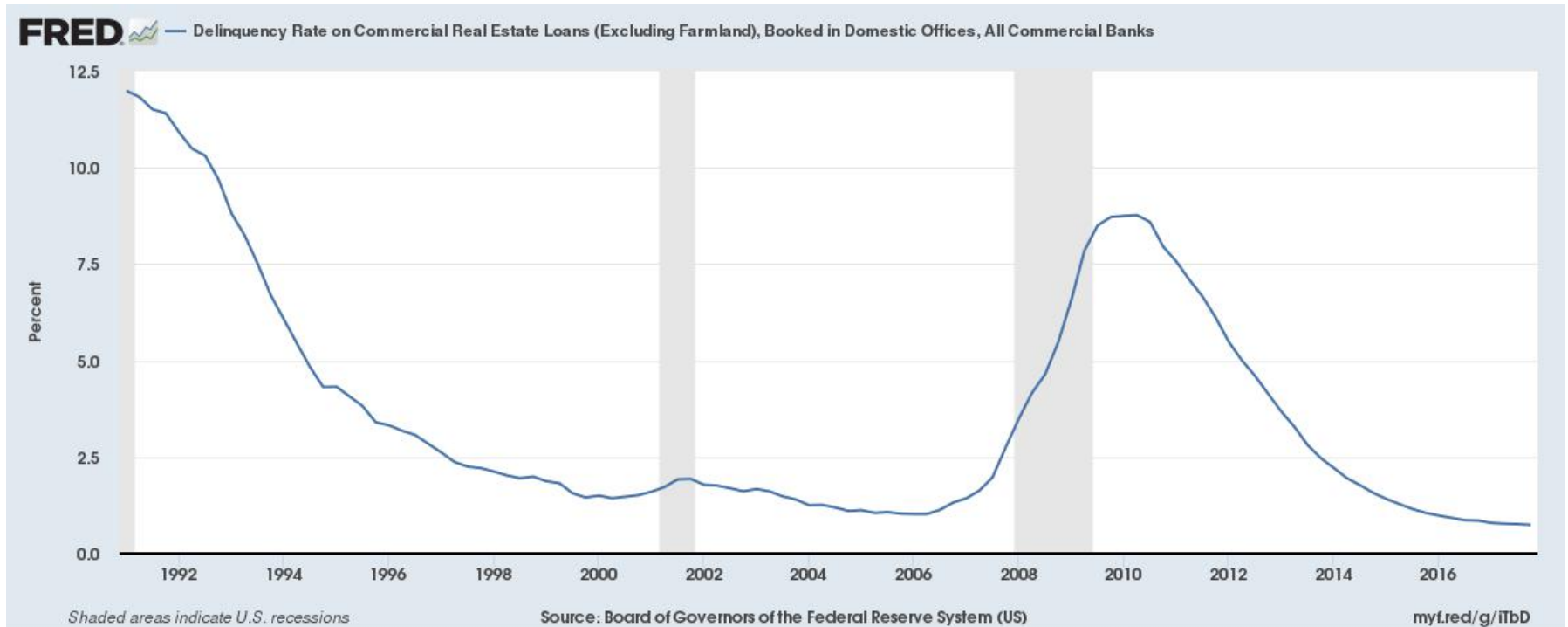
Total commercial real estate loans increased over \$335 billion within the past eight quarters . . .



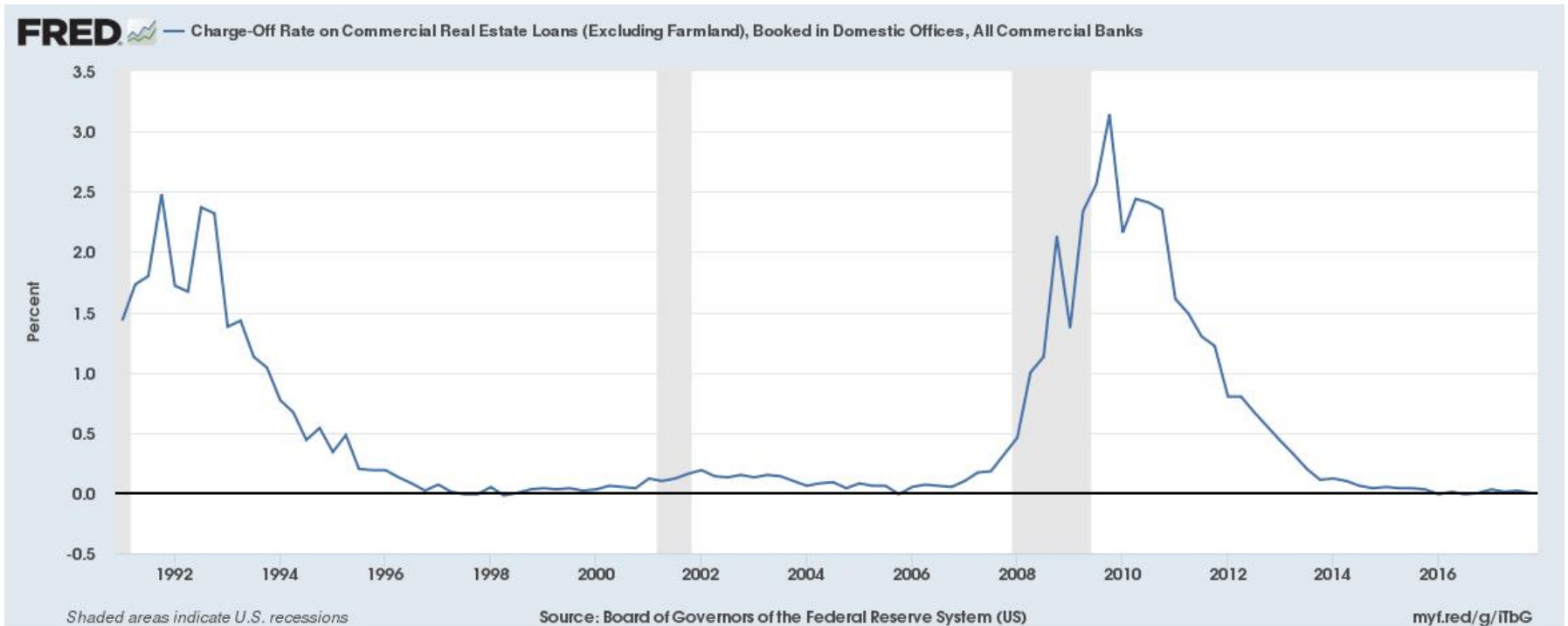
The overall mix of commercial real estate loans have shifted toward Non – owner occupied and construction over the past eight quarters . . .



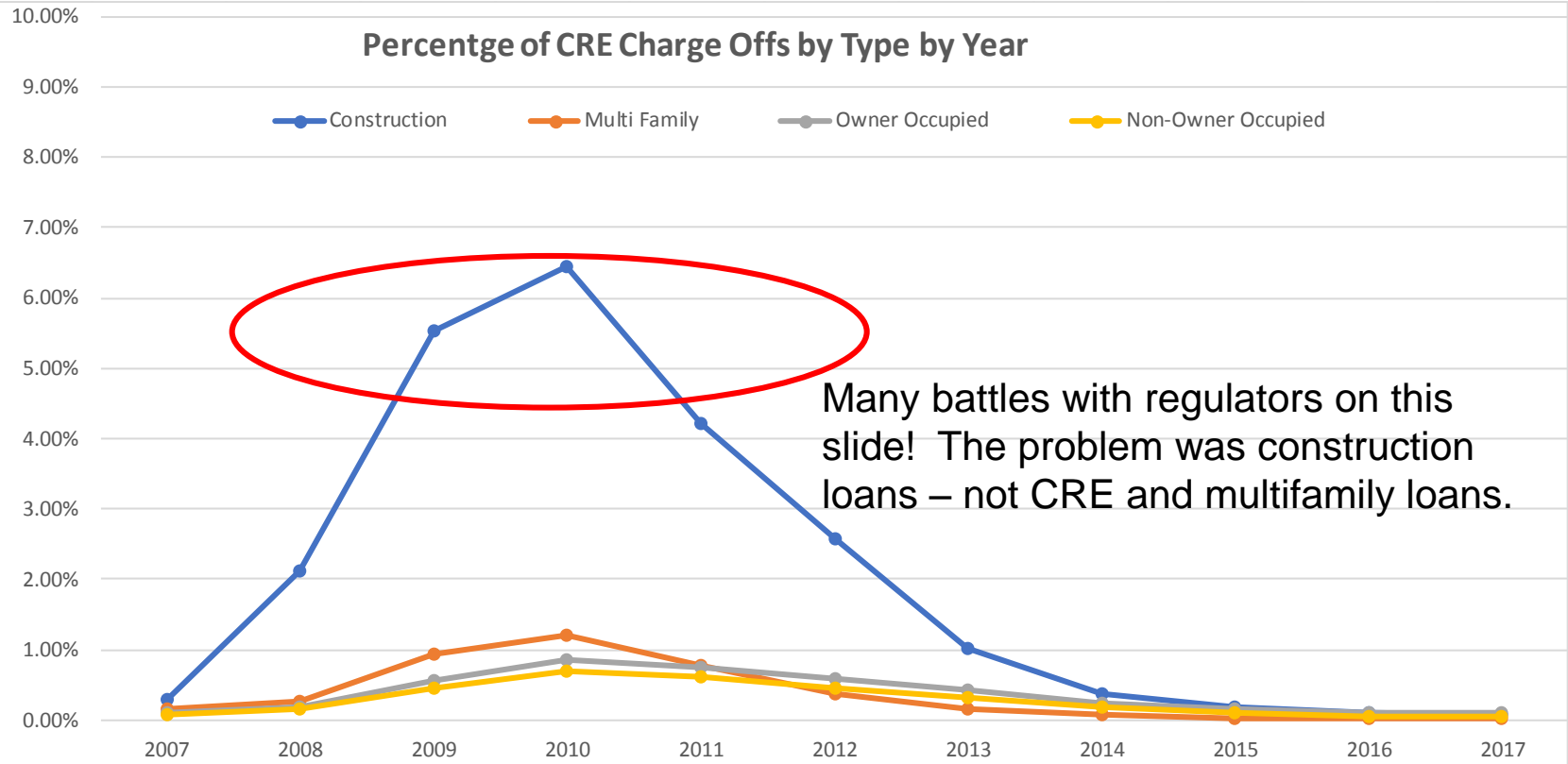
Meanwhile, delinquencies as a percentage of total CRE loans are trending downward and are at historical lows . . .



Since the Great Recession, charge-offs (as a percentage of commercial real estate loans) have been very low. However, in times of crisis, charge-offs can reach as high as 3% . . .



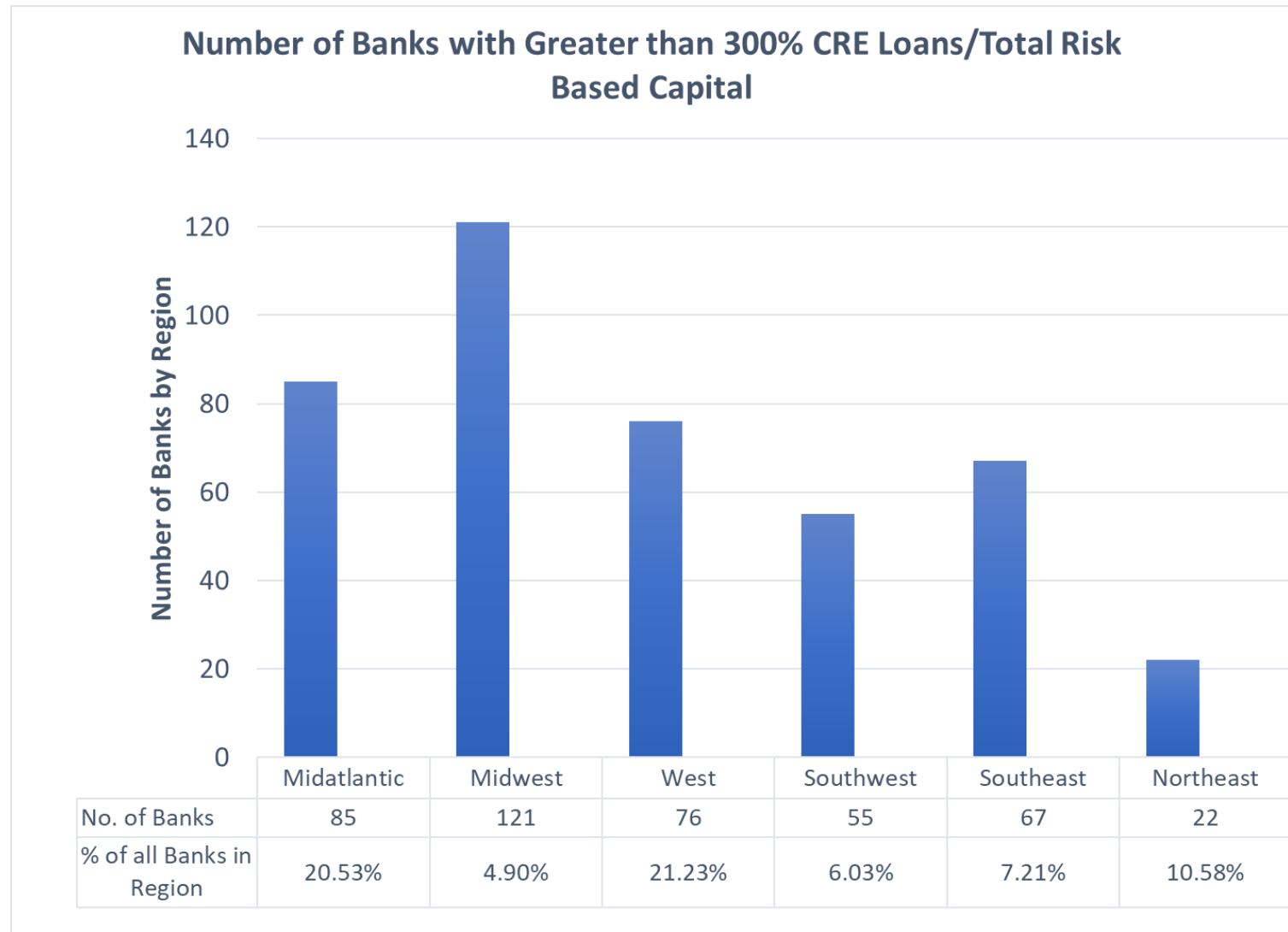
During the Great Recession, the majority of the charge-offs were from construction loans. However, Multifamily and Commercial RE Charge-offs also increased . . .



Many battles with regulators on this slide! The problem was construction loans – not CRE and multifamily loans.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Construction	0.28%	2.13%	5.53%	6.46%	4.20%	2.57%	1.03%	0.37%	0.17%	0.11%	0.07%
Multi Family	0.14%	0.26%	0.95%	1.20%	0.79%	0.38%	0.17%	0.07%	0.03%	0.02%	0.01%
Owner Occupied	0.10%	0.19%	0.56%	0.85%	0.75%	0.60%	0.43%	0.24%	0.15%	0.10%	0.10%
Non-Owner Occupied	0.08%	0.15%	0.44%	0.70%	0.62%	0.46%	0.32%	0.17%	0.10%	0.06%	0.06%

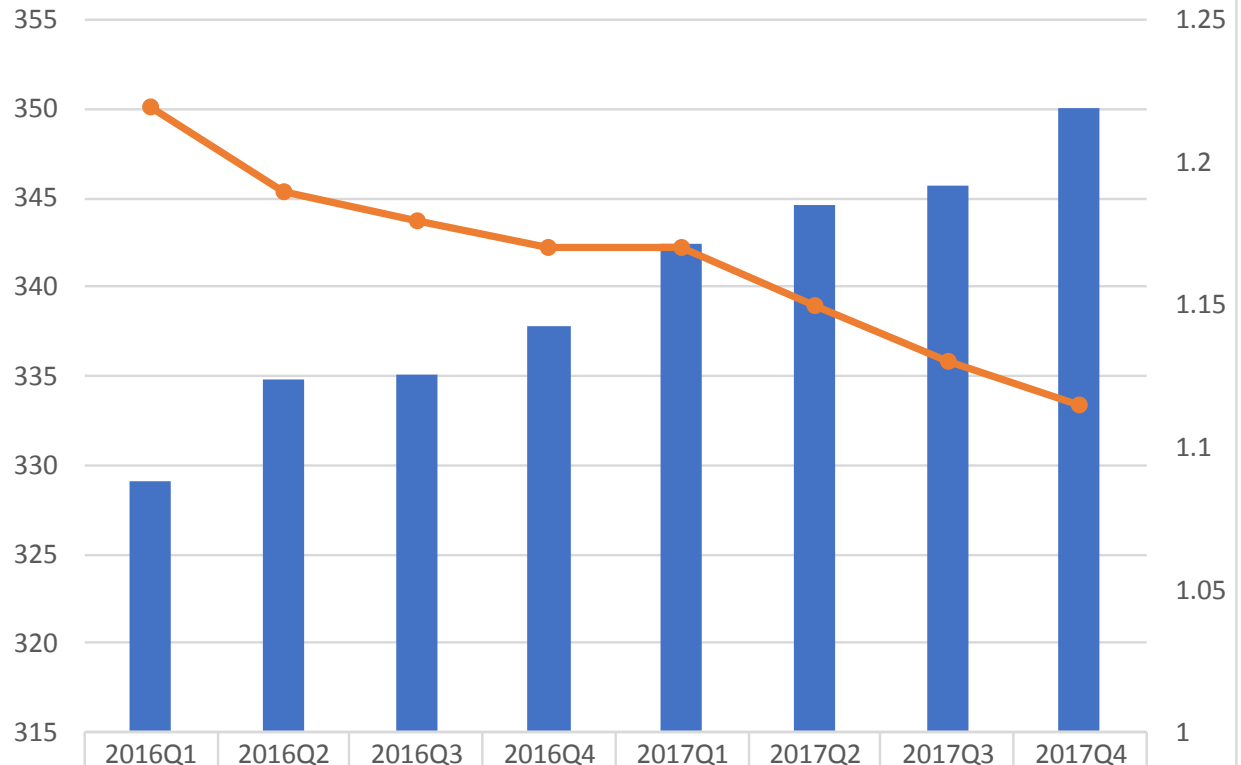
Financial institutions with higher Commercial Real Estate concentrations are geographically diverse, but constitute a distinct minority of institutions in that region . . .



Amongst the banks that have a CRE concentration greater than 300%, the overall concentration has increased over the past eight quarters while reserves to total loans declined . . .

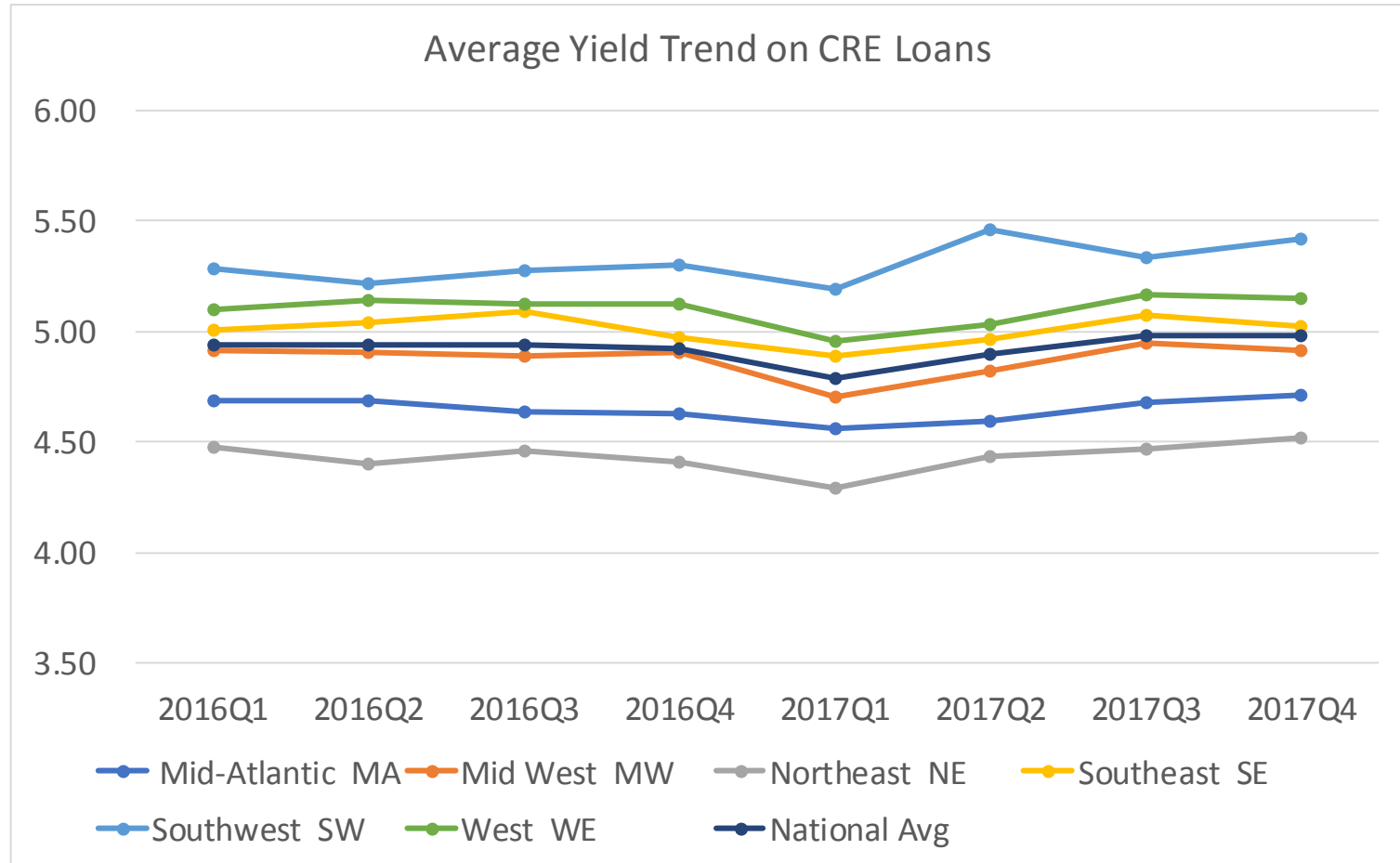
The issue is not CRE concentration risk, rather it the ALLL held against the portfolio!!!

CRE Concentration Trend Against ALLL/Total Loans Ratio



Median Commercial RE Loans/ Total Risk-Based Capital (%)	329.125	334.79	335.125	337.85	342.42	344.63	345.65	350.04
Median Loan and Lease Allowance/ Total Loans and Leases (%)	1.22	1.19	1.18	1.17	1.17	1.15	1.13	1.115

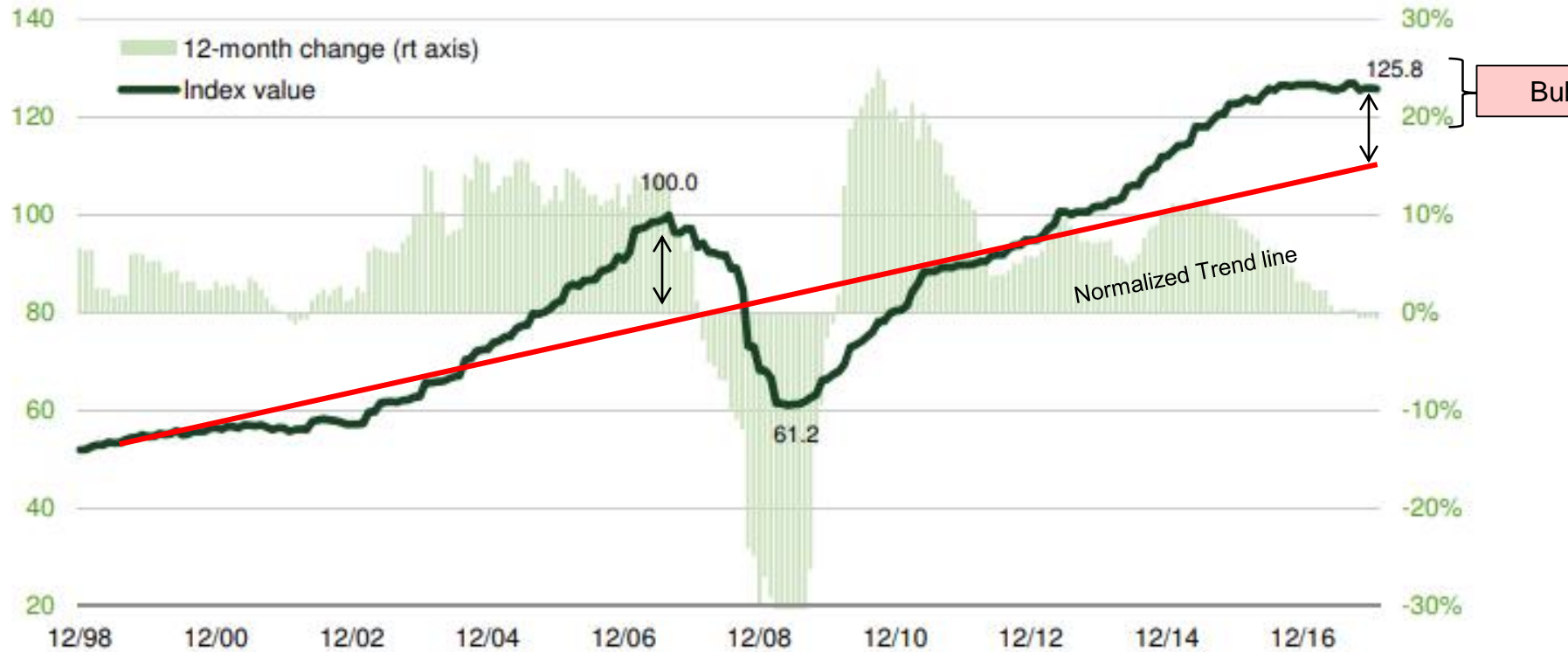
Meanwhile, yields began increasing with the Northeast and Mid-Atlantic experiencing the lowest yields . . .



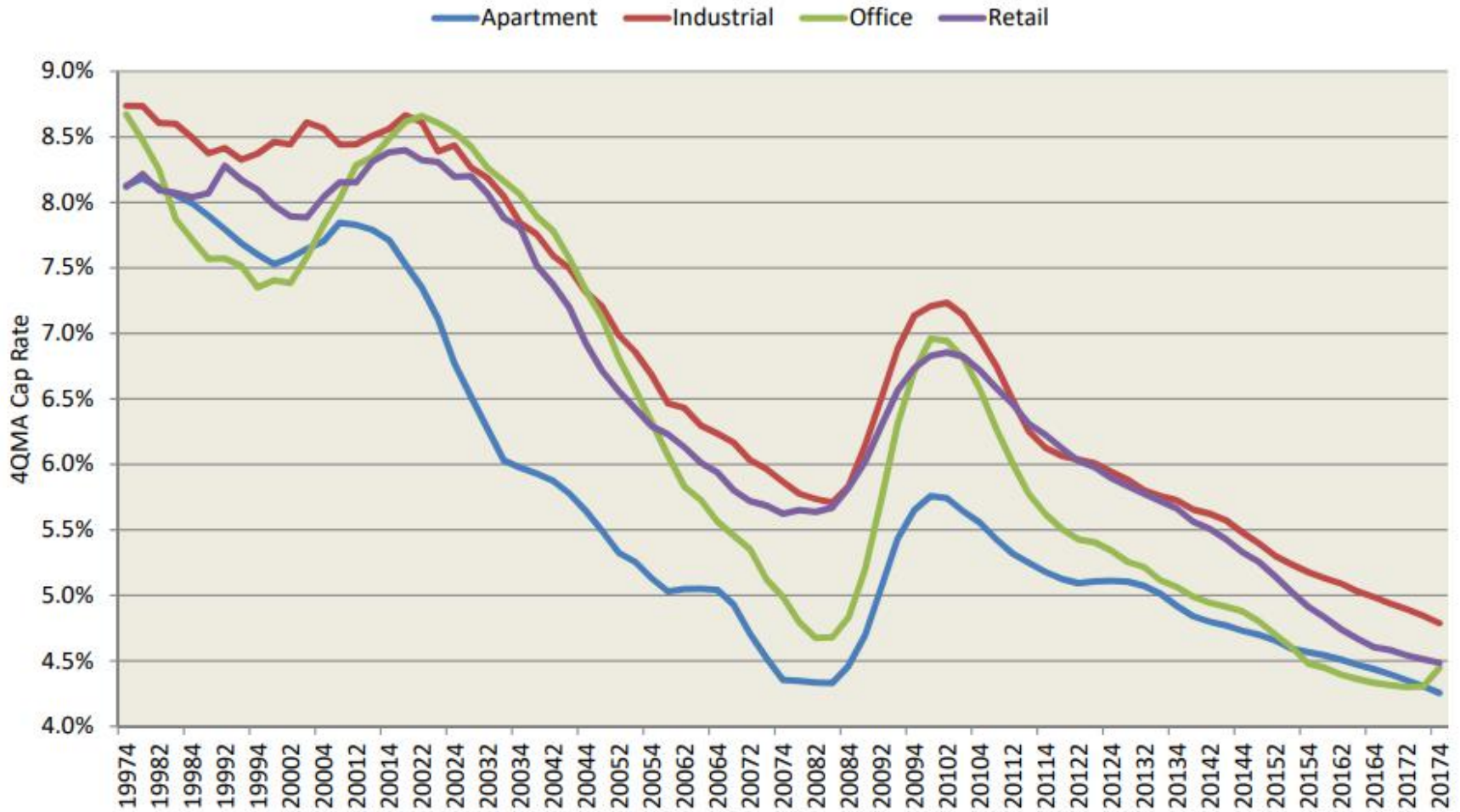
Market Data

The Commercial Real Estate Price Index illustrates a significant increase in value since 2010. A similar bubble existed prior to the Great Recession in 2007 . . .

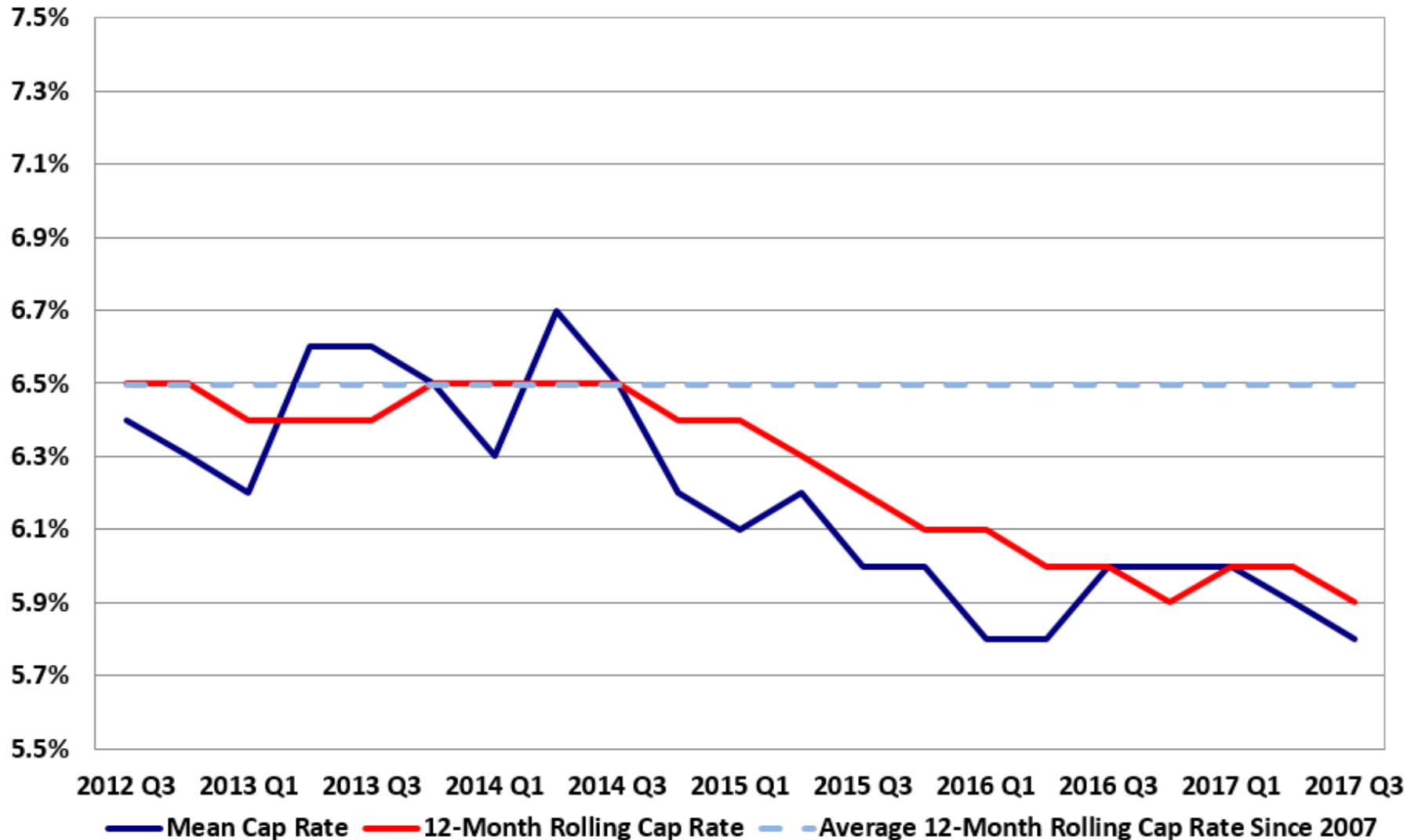
Green Street Commercial Property Price Index



Cap rates on all commercial real estate properties endured a steep decline since 2009 . . .

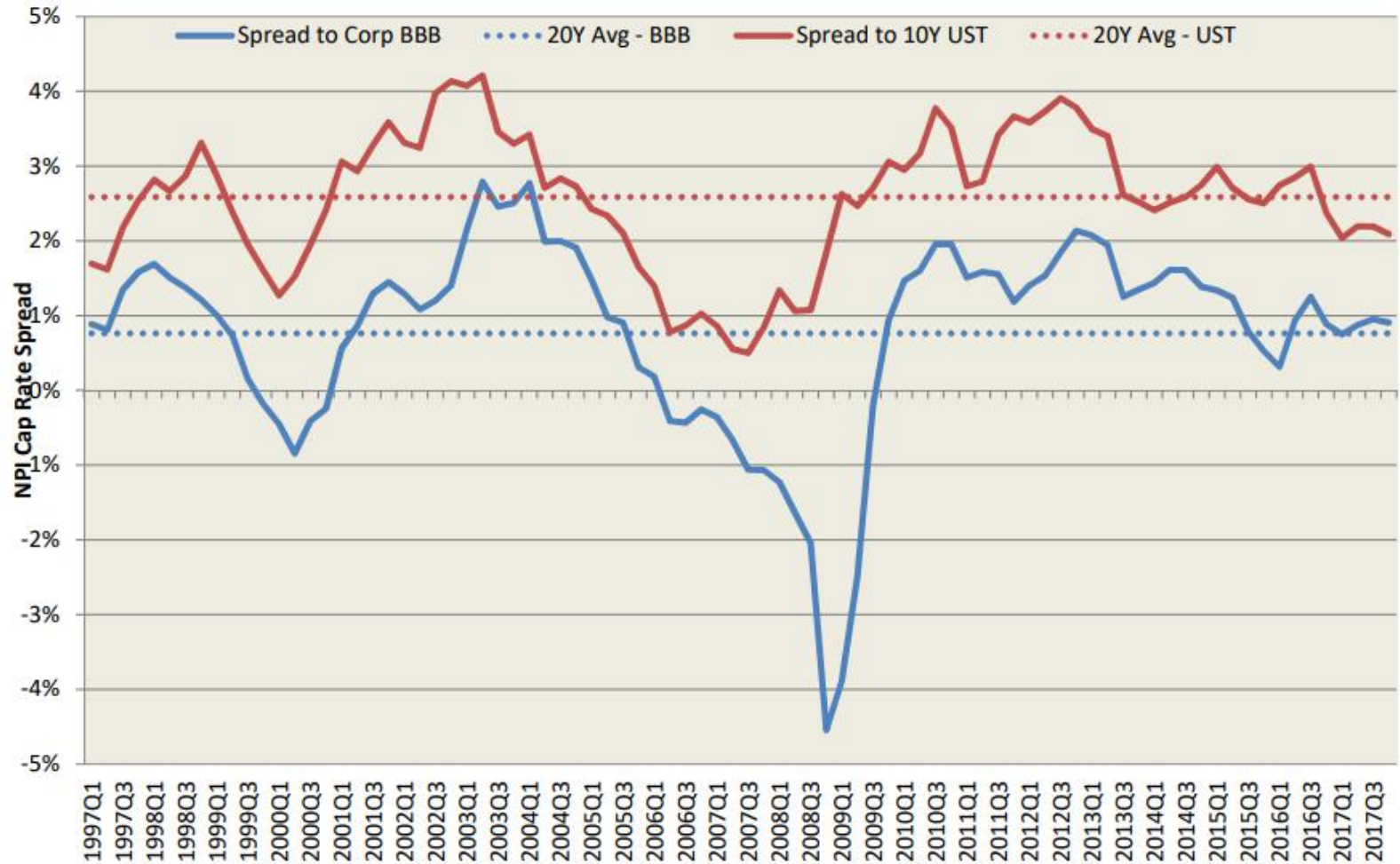


National multifamily cap rates are at historic lows and have significantly declined since 2014. Even with the advent of rising rates, cap rates continued downward.

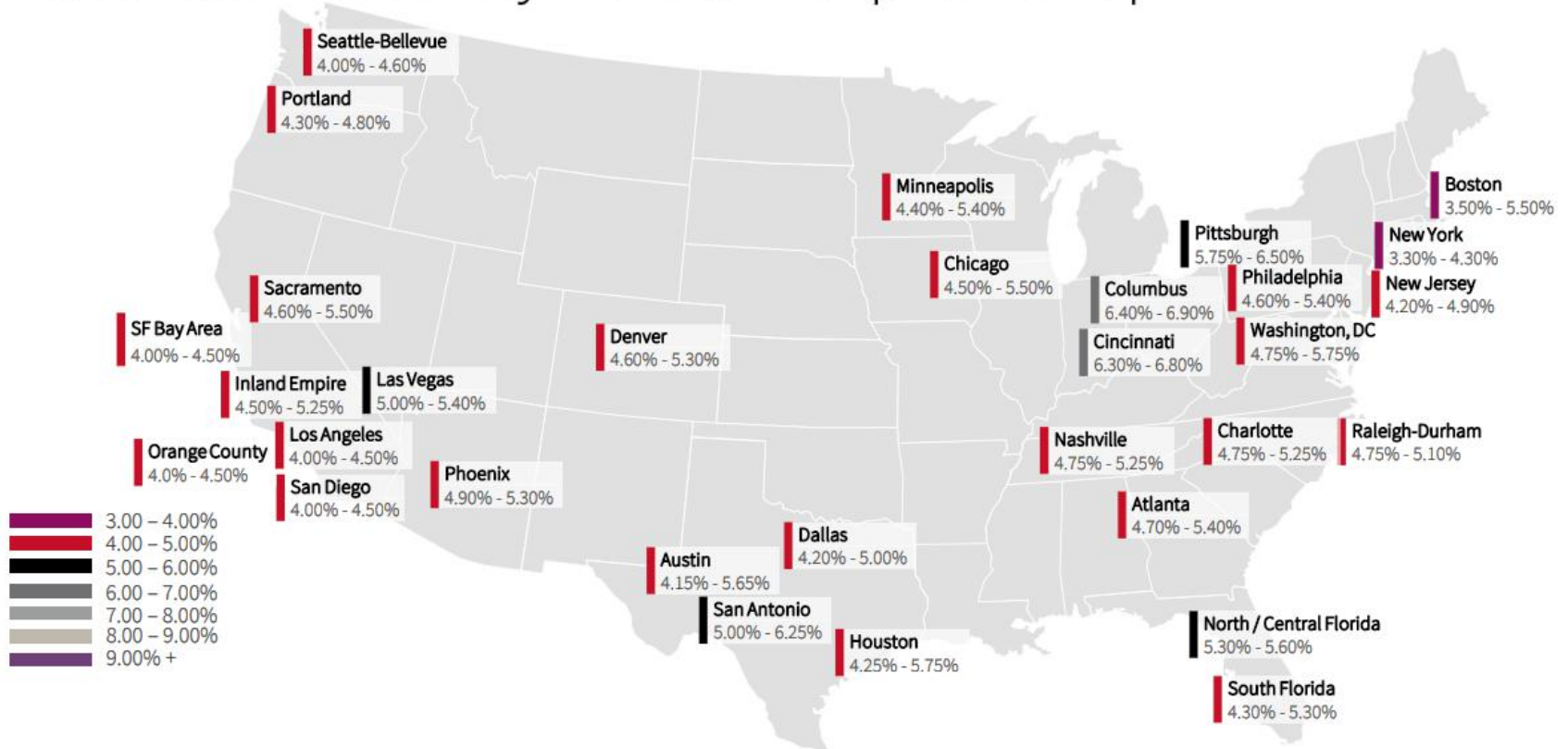


There has been a relatively strong correlation between the movement in cap rates with the 10 year Treasury bond with an average spread of approximately 2.50% . . .

NPI Cap Rate Spreads: 10Y U.S. Treasury and Corporate BBB Effective Yield



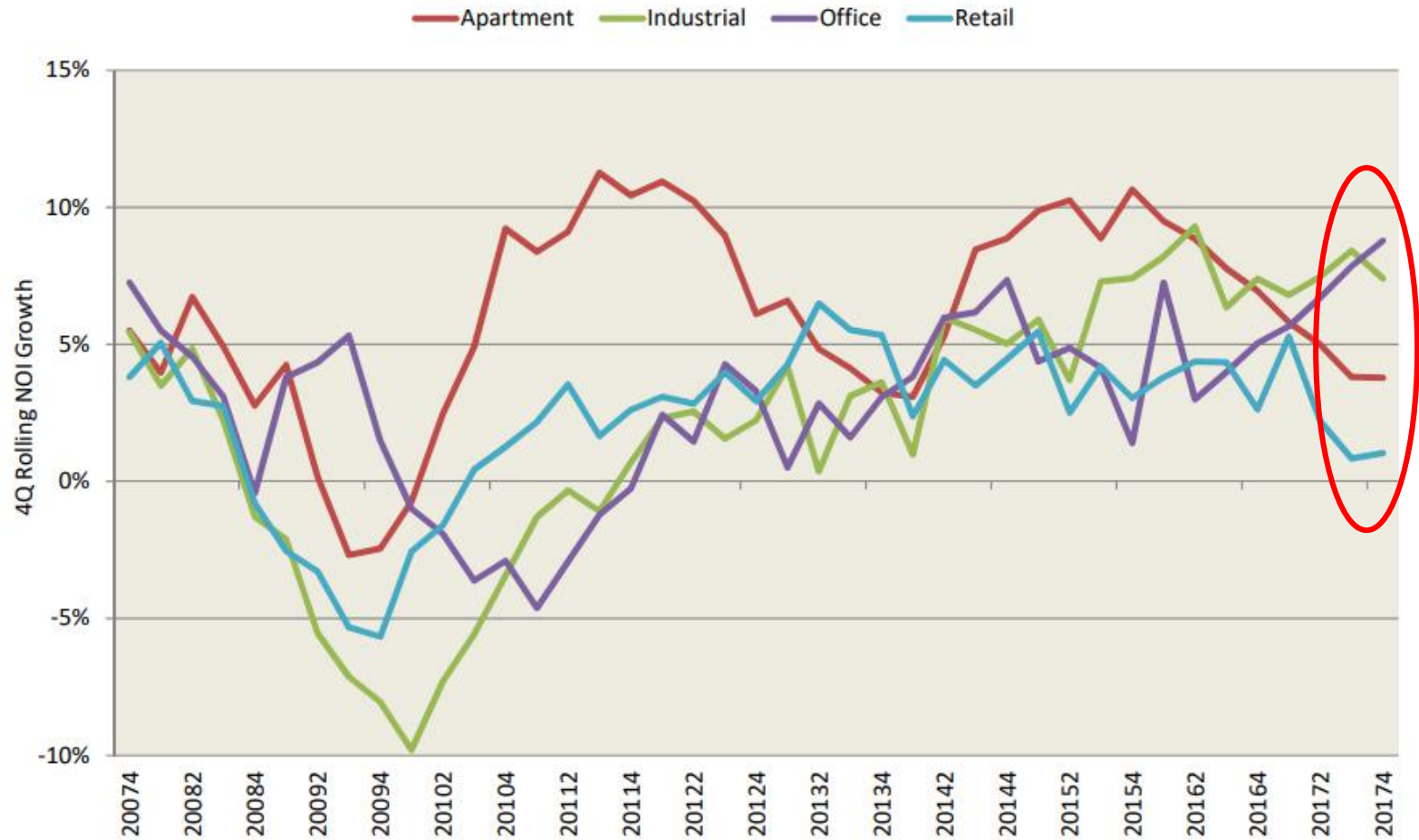
National Multifamily – Class A cap rate map



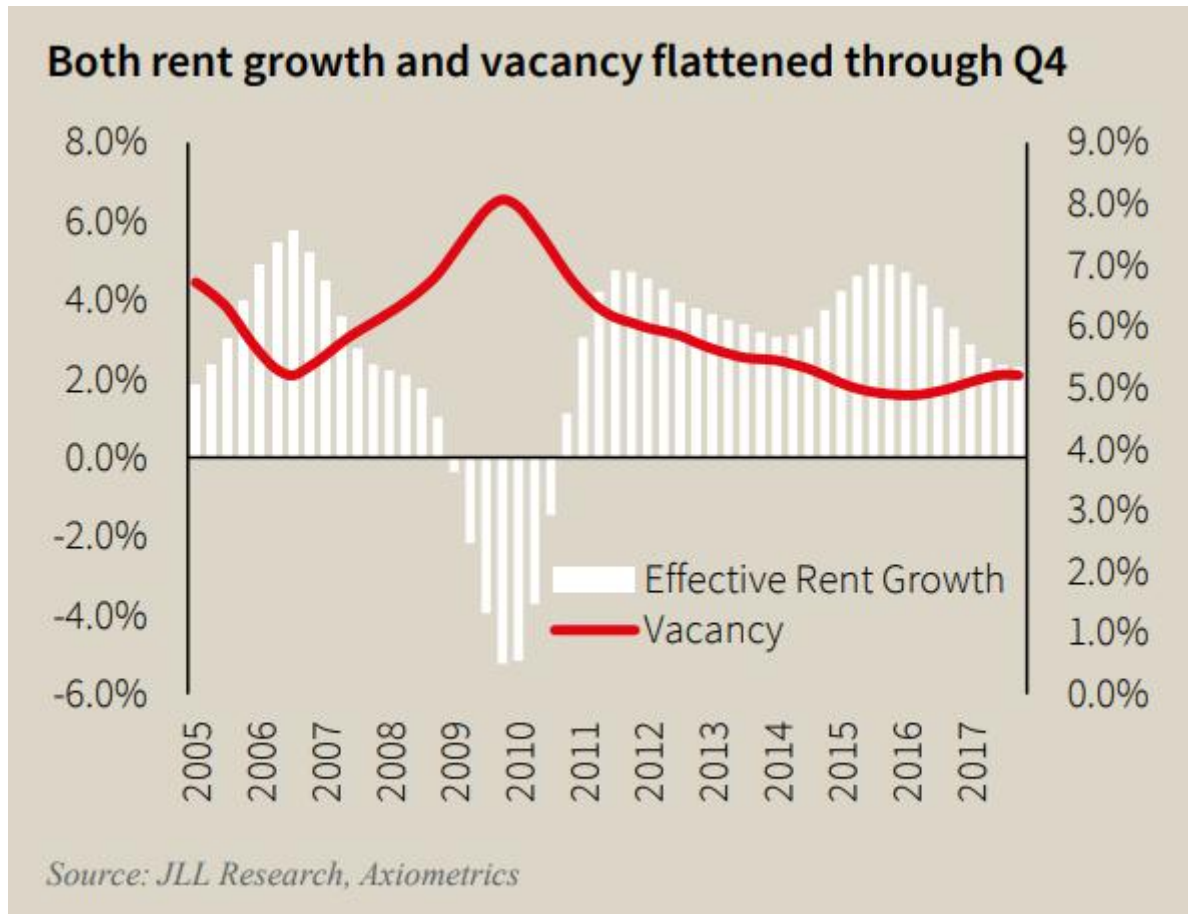
Source: JLL Research

NOI for offices has rebounded while all other sectors demonstrate continued weakness . . .

NPI Net Operating Income Growth Trends by Property Type



Rent growth and vacancy flattened through Q4 . . .



Urban cities in blue states have the highest rents. Interestingly, units added do not follow a discernable trend . . .

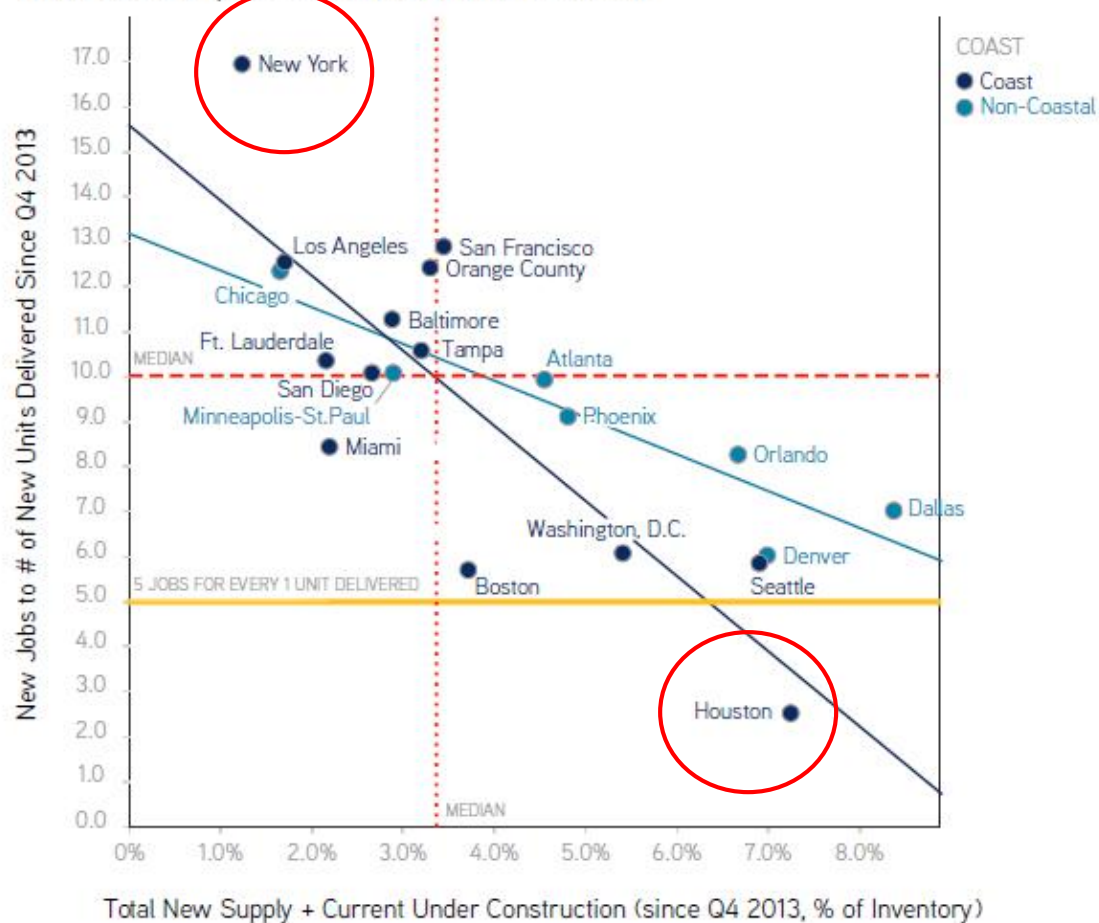
Percent of Growth from Top 3 Submarkets vs. 2016 Rent Affordability (Largest 20 Housing Markets)
 Growth in Total Units from 2014 to Present



The absorption of new construction is highly dependent on the relative health of the job market. The New York market continues to have high demand, fueled by job growth, while the Houston market endured a slow down in jobs, resulting in more inventory on the market . . .

Jobs to New Units Delivered Ratio vs. Total Supply (Largest 20 Housing Markets)

Both axes represent Q1 2014 to Present



Average rental rates for many of the major markets have declined year over year. . .

The 12 Most Expensive Rental Markets

November 2017, median asking rents

One bedroom		From	Prior	From	Record	
Pos.	City	Price	yr ago	record	prior record	month
1	San Francisco, CA	\$3,390	1.8%	\$3,670	-\$280 -7.6%	Oct-15
2	New York, NY	\$2,900	-3.3%	\$3,370	-\$470 -13.9%	Mar-16
3	San Jose, CA	\$2,400	9.1%	\$2,430	-\$30 -1.2%	Apr-16
4	Washington, DC	\$2,330	11.5%	\$2,280	\$50 2.2%	Aug-17
5	Boston, MA	\$2,250	0.4%	\$2,400	-\$150 -6.3%	Oct-15
6	Los Angeles, CA	\$2,200	8.4%	\$2,200	\$0 0.0%	Nov-17
7	Oakland, CA	\$2,060	-6.4%	\$2,420	-\$360 -14.9%	Apr-16
8	Seattle, WA	\$1,840	0.5%	\$1,950	-\$110 -5.6%	Aug-17
9	Miami, FL	\$1,750	-2.8%	\$1,900	-\$150 -7.9%	Jun-16
10	Honolulu, HI	\$1,700	0.0%	\$2,130	-\$430 -20.2%	Mar-15
11	San Diego, CA	\$1,690	8.3%	\$1,690	\$0 0.0%	Nov-17
12	Chicago, IL	\$1,530	-15.9%	\$2,050	-\$520 -25.4%	Oct-15

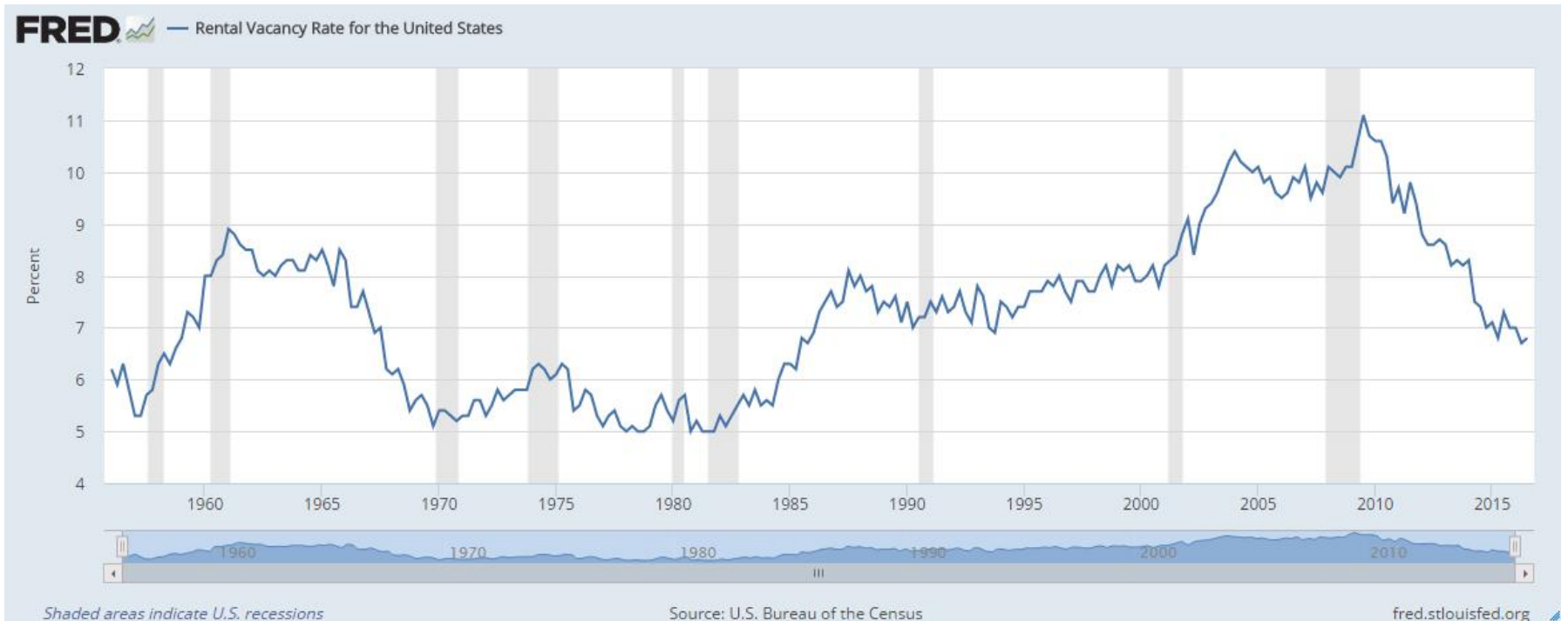
Two bedroom		From	Prior	From	Record	
Pos.	City	Price	yr ago	record	prior record	month
1	San Francisco, CA	\$4,380	-2.7%	\$5,000	-\$620 -12.4%	Oct-15
2	New York, NY	\$3,360	-1.2%	\$3,980	-\$620 -15.6%	Mar-16
3	Los Angeles, CA	\$3,180	6.4%	\$3,200	-\$20 -0.6%	Oct-16
4	Washington, DC	\$3,060	14.2%	\$3,230	-\$170 -5.3%	Aug-17
5	San Jose, CA	\$2,870	5.1%	\$3,080	-\$210 -6.8%	Apr-16
6	Boston, MA	\$2,690	4.3%	\$2,800	-\$110 -3.9%	Jan-15
7	Oakland, CA	\$2,500	-7.1%	\$2,940	-\$440 -15.0%	Apr-16
8	Seattle, WA	\$2,410	-3.2%	\$2,650	-\$240 -9.1%	Apr-16
9	Miami, FL	\$2,400	-4.0%	\$2,640	-\$240 -9.1%	Mar-16
10	San Diego, CA	\$2,210	2.3%	\$2,300	-\$90 -3.9%	Oct-17
11	Honolulu, HI	\$2,110	-11.0%	\$2,950	-\$840 -28.5%	Jan-15
12	Chicago, IL	\$2,180	-11.4%	\$2,650	-\$470 -17.7%	Sep-15

Source of data: Zumper

WOLFSTREET.com

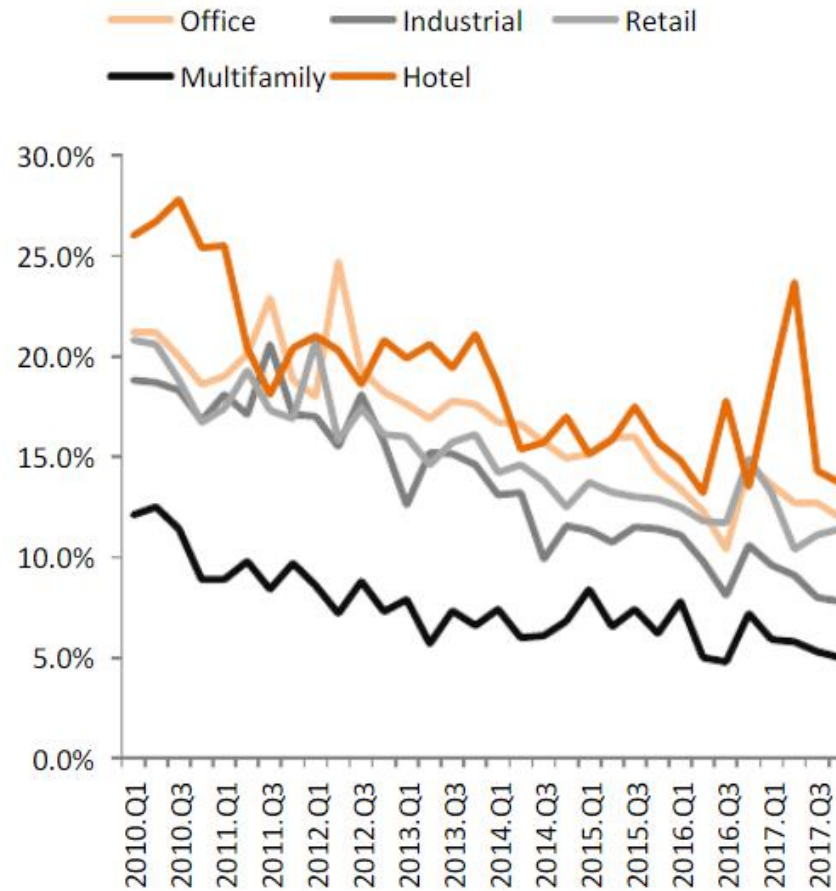


A long term trend of rental vacancy rates illustrates current vacancy rates are at their lowest point over the past 30 years . . .



Vacancy rates in commercial properties decreased across all property types . . .

Exhibit 3.2: REALTORS® Commercial Vacancy Rates



Source: National Association of Realtors®

Forward looking vacancy rate projections will flatten out and remain stubbornly high . . .

Commercial Real Estate

Exhibit 4.2: Commercial Real Estate Vacancy Forecast (%)

	2016.Q4	2017.Q1	2017.Q2	2017.Q3	2017.Q4	2018.Q1	2018.Q2	2018.Q3	2018.Q4	2019.Q1	2019.Q2	2019.Q3	2017	2018	2019
Office	13.4	13.6	12.7	12.7	12.0	12.5	12.2	12.0	11.9	11.7	11.5	11.2	12.8	12.2	11.3
Industrial	8.7	9.4	9.1	8.9	7.8	8.1	7.8	7.5	7.3	7.3	7.0	6.7	8.8	7.7	6.9
Retail	12.0	13.2	10.4	12.1	11.4	12.2	12.1	12.0	11.9	12.0	11.7	11.7	11.8	12.0	11.7
Multifamily	7.4	5.9	5.8	5.3	5.0	6.1	5.7	5.7	5.6	5.9	5.6	5.4	5.5	5.8	5.5

Source: National Association of REALTORS®

What does it all mean?

Look out for the iceberg! Regulators are working overtime to avoid the coming bubble burst.

Low Yields

Low Cap Rates

Less Reserves

More Interest Only

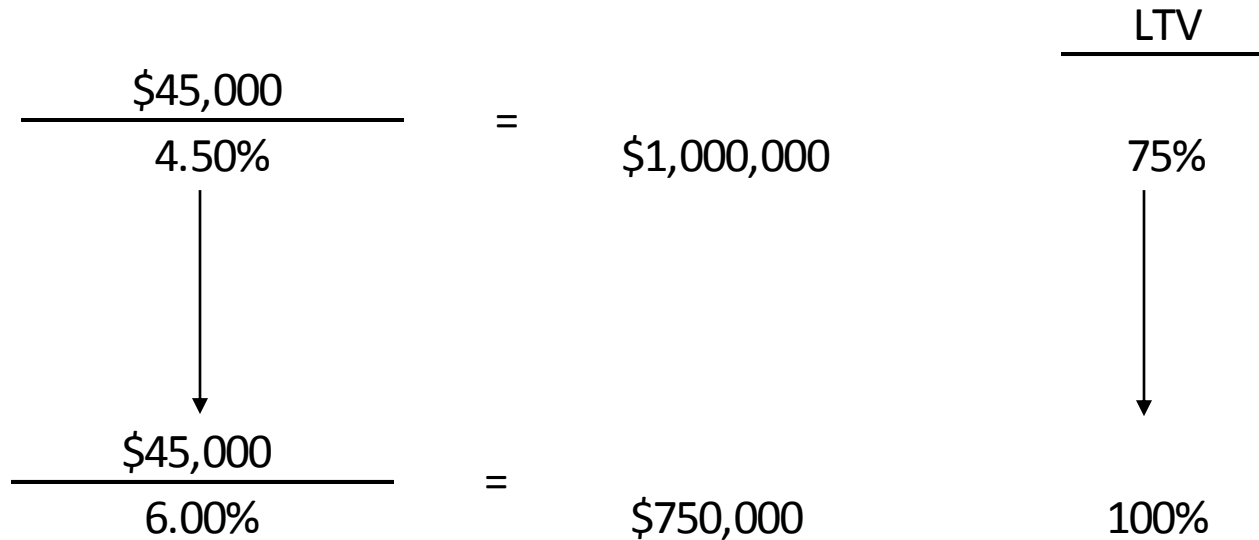


$$\frac{\text{NOI}}{\text{Value}} = \text{Cap Rate}$$

$$\frac{\text{NOI}}{\text{Cap Rate}} = \text{Value}$$

By changing the Cap rate, the value of collateral can significantly change . . .

Impact of Changing Cap Rates on Value



A 150 basis point increase in cap rate would result in a 25% decline in value on collateral.

If vacancy rates increase from 4.5% to 5.5% on the property, Net Operating Income would decline by \$10 thousand, resulting in a decline in property value . . .

Impact of Increasing Vacancy Rate on Value

			<u>LTV</u>
$\frac{\$45,000}{4.50\%}$	=	\$1,000,000	75%
↓			↓
$\frac{\$35,000}{4.50\%}$	=	\$777,778	96%

Any increase in cap rates, vacancy rates or interest rates (without the corresponding increase in rental income) could result in difficulty for recent borrowers to pay down or refinance their debt upon renewal . . .

- According to the Wall Street Journal:
 - In all, Morningstar Credit Ratings LLC predicts borrowers won't be able to pay off roughly 40% of the commercial mortgage backed securities loans coming due next year. Suburban office properties and shopping centers are being hit particularly hard, said Edward Dittmer, a Morningstar vice president.
 - Part of the problem in the current cycle are CMBS that originated before the Financial Crisis in 2006 and 2007 and that are backed by ten year loans that are now coming due. Fitch calls it "the wall of maturing loans." \$205 billion of these maturing CMBS are rated by Fitch. Now the loans need to be refinanced. And that may be tough.

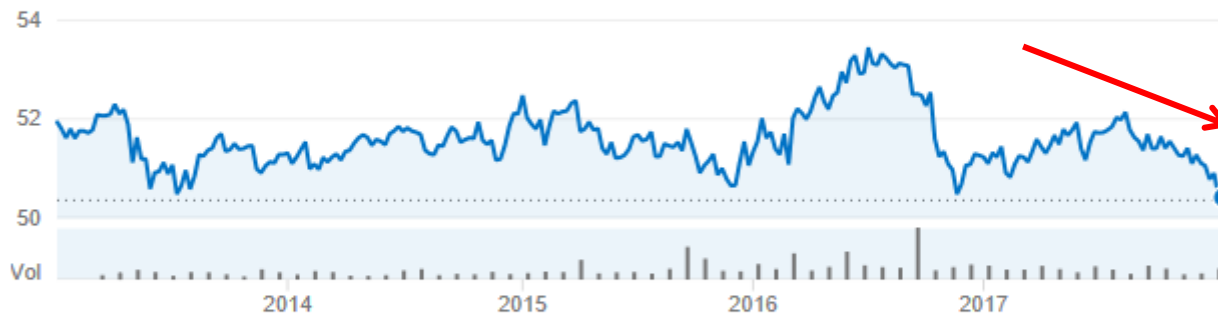
The iShares CMBS ETF shows signs of relative weakness in the 2nd half of 2017 despite the continued strong performance of the overall market . . .

iShares CMBS

CMBS - March 7, 12:38 PM EST



50.28 ▼ 0.070 (0.14%)



Day

Week

Month

Year

5 Year

Max

High 53.45 on Jul 29, 2016

Low 50.41 on Feb 5, 2018

Avg 51.60 for past 5 years

Regulatory View

The regulators issued key documents addressing CRE concentrations . . .

Title	FRB	FDIC	OCC
Real Estate Lending Standards Regulations and Guidelines	12 CFR 208, subpart E	12 CFR 365	12 CFR 34, subpart D (national banks) and 12 CFR 160.101 (federal savings associations)
Appraisal Regulation	12 CFR 208, subpart E 12 CFR 225, subpart G	12 CFR 323	12 CFR 34, subpart C
Standards for Safety and Soundness	12 CFR 208	12 CFR 364 appendix A	12 CFR 30, appendix A
Interagency Supervisory Guidance Addressing Certain Issues Related to Troubled Debt Restructurings (October 24, 2013)	SR 13-17	FIL-50-2013	OCC Bulletin 2013-26
Interagency Appraisal and Evaluation Guidelines (December 2, 2010)	SR 10-16	FIL-82-2010	OCC Bulletin 2010-42
Prudent Commercial Real Estate Loan Workouts (October 30, 2009)	SR 09-7	FIL-61-2009	OCC Bulletin 2009-32
Interagency Guidance on Concentrations in Commercial Real Estate, 71 Fed. Reg. 74580 (December 12, 2006)	SR 07-1	FIL-104-2006	OCC Bulletin 2006-46
Interagency Policy Statement on the Allowance for Loan and Lease Losses (ALLL) (December 13, 2006)	SR 06-17	FIL-105-2006	OCC Bulletin 2006-47
Interagency FAQs on Residential Tract Development Lending (September 8, 2005)	SR 05-14	FIL-90-2005	OCC Bulletin 2005-32
FFIEC Policy Statement on Allowance for Loan and Lease Losses Methodologies and Documentation for Banks and Savings Institutions (July 2, 2001)	SR 01-17	FIL-63-2001	OCC Bulletin 2001-37
Interagency Supervisory Guidance on Stress Testing for Banking Organizations With More Than \$10 Billion in Total Consolidated Assets (May 17, 2012)	SR 12-7	Press Release PR-53-2012	OCC Bulletin 2012-14
Interagency Statement to Clarify Supervisory Expectations for Stress Testing by Community Banks (May 14, 2012)	Federal Reserve Press Release 5/14/12	Press Release PR-54-2012	OCC News Release 2012-76

2015: Statement on Prudent Risk Management for Commercial Real Estate Lending

The 2015 Commercial Real Estate Guidance is also critical . . .

- It reinforces the items contained in the 2006 Guidance
- It emphasizes the importance of Global Cash Flow Analysis

The 2006 Guidance focuses on an appropriate Risk Management framework . . .

1. Board and management oversight
2. Portfolio management
3. Management Information System
4. Market analysis
5. Credit underwriting standards
6. Portfolio stress testing and sensitivity analysis
7. Credit risk review function

The Board and Management Oversight section identifies the following two critical areas . . .

1. A Strategic plan should address the rationale for its CRE levels in relations to its growth objectives, financial targets, and capital plan
2. Adopt and maintain a written policy that establishes appropriate limits and standards for all extensions of credit that are secured by liens on or interests in real estate, including CRE loans

The Board is expected to execute on the following actions . . .

1. Establish policy guidelines and approve an overall CRE lending strategy regarding the level and nature of CRE exposures acceptable to the intuition, including any specific commitments to particular borrowers or property types (such as multifamily)
2. Ensure that management implements procedures and controls to effectively adhere to and monitor compliance with the bank's lending policies and strategies
3. Review information that identifies and quantifies the nature and level of risk presented by CRE concentrations, including reports that describe changes in CRE market conditions in which the bank lends
4. Periodically review and approve CRE risk exposure limits and sublimits

Management must execute specific strategies for the CRE portfolio . . .

1. Management regularly should evaluate the degree of correlation between related real estate sectors and establish internal lending guidelines and concentration limits.
2. Management should develop appropriate strategies for managing CRE concentration limits, including a contingency plan to reduce or mitigate concentrations in the event of adverse CRE market conditions
3. If the contingency plan includes selling or securitizing CRE loans, management should assess periodically the marketability of the portfolio

An effective MIS is critical to manage the concentration . . .

1. Management is encouraged to stratify the CRE portfolio by

1. property type
2. geographic market
3. tenant concentrations
4. tenant industries
5. developer concentrations
6. risk ratings
7. Other
 - a. Loan structure (fixed or variable)
 - b. Loan purpose (construction, short term or perm)
 - c. LTV
 - d. DSC
 - e. Policy exceptions
 - f. Affiliated loans

2. Management reporting should include a well-defined process through which management reviews and evaluates concentration and risk management reports

Credit Underwriting is correlated to the overall risk profile . . .

1. Lending policies should reflect the level of risk that is acceptable to its Board
2. Lending policies should provide clear and measurable underwriting standards that enable the lending staff to evaluate all relevant credit factors
3. In establishing appropriate lending policies, the bank should consider both internal and external factors
 - Market position
 - Historical experience
 - Present and prospective trade area
 - Probable future loan and funding trends
 - Staff capabilities
 - Technology resources
4. CRE lending policies should address the following underwriting standards
 - Maximum loan amount by type of property
 - Loan terms
 - Pricing structures
 - Collateral Valuation (FDIC 12 CFR part 323)
 - LTV limits by property type
 - Requirements for feasibility studies and sensitivity analysis or stress testing
 - Minimum requirements for initial investment and maintenance of hard equity by the borrower
 - Minimum standards for
 - a. Borrower net worth
 - b. Property cash flow
 - c. DSC

Market Analysis is an important component of managing CRE concentrations . . .

Bank should perform periodic market analyses for the various property types and geographic markets represented in the portfolio

Report should be presented to Management and the Board

Critically important as part of discussion about entering new markets, pursuing new lending activities, or expanding in existing markets

This analysis should be done on a forward-looking “strategic” basis to be most valuable.

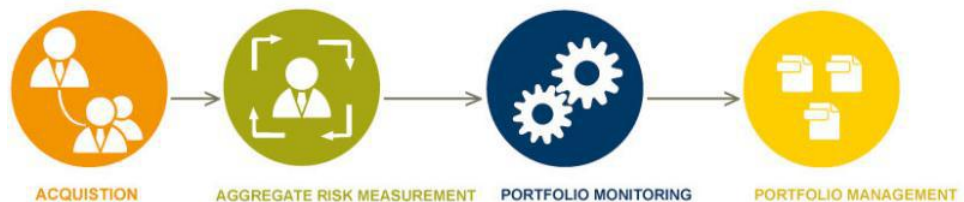
Management must present exceptions (policy and covenant) to the Board . . .

- Exceptions
 - Must document how the transaction does not conform to the institution’s policy or underwriting standards
 - Obtain appropriate management approvals
 - Provide reports to the Board or designated committee, detailing
 - Number
 - Nature
 - Justification
 - Trend with exceptions
 - Exceptions to both the bank’s internal lending standards and Agencies supervisory LTV limits should be monitored and reported to the Board at least quarterly

What should community banks do to protect themselves?

Data capture is crucial . . .

- As banks prepare for CECL, they will begin to assess the amount of data digitally available and the analytic tools which are available to analyze that data to drive business decisions
- Right now a large shortcoming of community banks are the analytics. Good analytics, even basic analytics, starts with good data.
 - Examples of data which needs to be digitized include:
 - Rent rolls
 - Occupancy information
 - Appraisals
 - Personal financial statements and tax returns
 - Covenants
 - Additional data needs to analyzed and captured:
 - Customer behavior
 - Flow of funds
 - Account administrative activity (adding or removing names)
 - Address changes
 - Number of branch visits vs. amount of time spend accessing mobile or online
 - Customer attributes
 - Age
 - Employment



Breakdown the commercial real estate portfolio into granular detail and establish concentration thresholds . . .

Plans, Net	As of Sample Date				
	Balance	% of Loan Portfolio	Versus Risk-Based Capital		
			%	Board Limit	Mod.Risk (85%)
By property type:					
Multifamily	825,000	23.94%	169.98%	400%	320%
Mixed Use - Residential	124,000	3.60%	25.55%	150%	120%
Mobile Home	223,000	6.47%	45.95%	125%	100%
Total Residential CRE	1,172,000	34.02%	241.47%	500%	400%
Retail Center - Grocery Anchor	120,000	3.48%	24.72%	200%	160%
Retail Center - Credit Anchor	320,000	9.29%	65.93%	200%	160%
Retail Center - National Tenant - Retail	180,000	5.22%	37.09%	200%	160%
Retail Center - Non Credit Anchor	320,000	9.29%	65.93%	100%	80%
Mixed Use - CRE	145,000	4.21%	29.88%	100%	80%
Total Credit/Grocery Retail	1,085,000	31.49%	223.55%	400%	320%
Self Storage	753,456	21.87%	155.24%	50%	40%
Warehouse	82,345	2.39%	16.97%	50%	40%
Medical	23,413	0.68%	4.82%	50%	40%
Office	56,789	1.65%	11.70%	50%	40%
Other Commerical	13,458	0.39%	2.77%	50%	40%
Total Commerical	929,461	26.98%	191.50%	200%	160%
Construction	34,982	1.02%	7.21%	25%	20%
Combined CRE portfolio	3,221,443	93.50%	663.73%	700%	560%
Residential	123,000	3.57%	25.34%		
Owner Occupied	76,456	2.22%	15.75%		
Business Loans	23,490	0.68%	4.84%		
Passbook Loans	1,100	0.03%	0.23%		
Total Other	101,046	2.93%	20.82%		
Total Residential and Other	224,046	6.50%	46.16%		
Gross loan portfolio	\$ 3,445,489	100.00%	709.89%		
Deferred Loan Fees	(12,300)				
Allowance for Future Losses	43,210				
Total Loans, Net	\$ 3,476,399				

Stress testing the portfolio with various economic scenarios may help an institution pinpoint its pressure areas to better monitor key indicators that will have the greatest impact on the portfolio. . .

	Actual Sep-16	Adjusted Flat	Adjusted Expense	Adjusted Income	Adjusted Interest	Adjusted Cap Rate	Adjusted Baseline	Adjusted Adverse	Adjusted Severe
Total	80,007,638								
Total Above 100% LTV		5,673,608	15,433,317	15,877,750	9,394,813	9,394,813	3,172,195	18,306,664	58,746,240
Total Above 80% LTV		17,253,381	21,652,279	24,622,543	24,178,110	24,178,110	12,268,160	36,860,199	70,226,669
Deficiency \$		1,920,288	3,557,181	4,526,803	3,799,979	3,799,979	1,243,282	5,871,523	22,920,834
Loss Given Default \$		739,617	1,813,597	2,405,318	1,394,714	1,394,714	445,415	1,875,058	10,431,805
Loss Rate		0.92%	2.27%	3.01%	1.74%	1.74%	0.56%	2.34%	13.04%
Not Classified Total	80,007,638								
Resulting									
Median LTV Adj.		0.00%	-3.33%	-8.33%	-11.49%	-11.49%	8.32%	-19.56%	-45.66%
Median DSCR Adj.		0.00%	-3.08%	-8.08%	0.00%	0.00%	2.00%	-2.52%	-7.49%
Median Cap Rate Adj.		0.00%	0.00%	0.00%	12.79%	12.79%	-1.60%	5.97%	17.65%
Tier 1 leverage capital	9.34%	9.22%	9.05%	8.95%	9.12%	9.12%	9.27%	9.04%	7.65%
Total Risk-based	12.02%	11.86%	11.63%	11.50%	11.72%	11.72%	11.93%	11.62%	9.77%

By stressing the portfolio, the Bank can determine which loans fail the stress test . . .

LTV SUMMARY	Estimated Current: Severely Adverse			
	Count	Balance	Deficiency \$	Loss Given Default \$
10%	-	-	-	-
20%	-	-	-	-
30%	-	-	-	-
40%	2	1,443,941	-	-
50%	3	1,863,032	-	-
60%	3	1,476,712	-	-
70%	1	757,967	-	-
80%	5	4,239,317	-	-
90%	4	3,758,451	64,817	2,887
100%	9	7,721,978	727,970	19,690
110%	4	8,082,995	1,575,914	238,674
120%	7	10,624,541	2,846,991	808,315
130%	7	13,568,046	4,364,406	2,139,505
140%	3	4,818,379	1,785,633	647,928
150%	-	-	-	-
160%	2	2,648,239	1,228,076	929,093
170%	2	3,540,994	1,677,515	61,295
180%	1	1,152,487	579,973	-
190%	2	5,070,131	2,736,312	1,917,502
200%	3	6,924,540	3,873,018	3,039,594
>200%	2	2,315,888	1,460,209	627,323
Total	60	80,007,638	22,920,834	10,431,805
Total Above 100% LTV	33	58,746,240		
Total Above 80% LTV	46	70,226,669		
Not Classified	-	\$ -		
Total	60	80,007,638	Loss Rate	13.04%

* Note: The Severely Adverse scenario correlates to the FRB's severely adverse scenario and is defined later in this report.

	Actual Sep-16	Adjusted Sep-16
Equity capital	33,475	26,486
Tier 1 capital	38,466	31,477
Total risk based capital	37,277	30,288
Total adjusted tangible assets	411,647	411,647
Total risk-weighted assets	310,077	310,077
Tier 1 leverage capital	9.34%	7.65%
Total Risk-based	12.02%	9.77%

Resulting
 Median LTV Adj: -45.66%
 Median DSCR Adj: -7.49%
 Median Cap Rate Adj: 17.65%

Individual loan stress tests will allow the Bank to closely monitor credits at risk and develop risk mitigation plans . . .

Scenario: Adverse & Severely Adverse		
Account Number	123456789	Legal Entity
Borrower	Sample Borrower	
Collateral Address		

Loan Data			
Note Date	4/1/2015	Loan Type	ML COMM NonOwnOcc FIXED
Maturity Date	4/1/2030	FDIC Code	1E2
Terms		Risk Rating	3.00
Original Commitment		Lien Position	FIRST
Current Balance	\$ 400,400	Interest Rate	0.04
Recourse	Full Recourse	Fixed or Variable	Fixed
Guarantor		Credit Score	783.00
PFS NW		Type	OFFIC
Pmt history		Units	6

Next Due			
Statistics	Baseline	Adverse	Severely Adverse
Pass or Fail	Passed	Passed	Failed
Income	\$ 138,533.34	\$ 133,440.20	\$ 129,908.96
Expenses	\$ 50,504.00	\$ 50,251.48	\$ 50,882.78
NOI	\$ 85,313.00	\$ 83,188.72	\$ 79,026.18
DSCR	1.15	2.15	2.05
Interest Rates	4.00%	4.00%	4.00%
Property Values \$	\$ 580,000.00	\$ 580,000.00	\$ 580,000.00
LTV	69%	69%	116.59%
Potential Loss	\$ -	\$ -	\$ 108,606.95

Assumptions	Baseline	Adverse	Severely Adverse
Income Decline	-2.00%	1.75%	4.35%
Expense Increase:	2.00%	-0.50%	0.75%
Rate Increase:	0.75%	0.33%	-1.50%
Beta Value of Cap Rate:	50.00%	50.00%	50.00%
Addl Cap Rate Increase	-0.50%	0.30%	2.13%
CML Change:	4.50%	-12.00%	-30.00%
Cost of Carry/Selling	15.00%	15.00%	15.00%

1. **Qualitative Factor Adjustments (need to be analyzed and assessed for each portfolio segment category)**
 - i. Changes to lending policies and procedures, including underwriting standards
 - ii. Changes in economic and business conditions
 - iii. Changes in the nature and volume of the portfolio
 - iv. Changes in the experience, ability, and depth of lending management
 - v. Changes in the volume and severity of past due loans, nonaccrual and adversely classified loans
 - vi. Changes in the quality of the loan review system
 - vii. Changes in collateral values
 - viii. Existence of, and changes in, any concentrations of credit
 - ix. Changes in competition and legal/regulatory requirements

Review loan policies and modify underwriting criteria based on market current and forecasted market conditions . . .

- CRE
 - Underwrite to at least 6% cap rate
 - Underwrite loan term to be shorter than key leases
 - Reduce loan-to-value (LTV) and increase debt service coverage (DSC) thresholds in overheated markets
 - Add maximum limits on policy exceptions
 - Limit or eliminate Interest Only structures
- Mortgages
 - Slowing volume, very few refi's
 - Jumbo residential bubble
 - Consequences of tax law
 - State by state analysis on foreclosures/bankruptcies
- Consumer
 - Highest debt ever
 - Decreased ability to service the debt
 - Student loan forgiveness
- C&I
 - Cash flow is EVERYTHING
 - Control the collateral and the cashflow

The major agencies expect refinance volume to drop substantially in 2018 compared to 2017 . . .

Origination volume for calendar year 2016 was close to \$2.0 trillion. In 2017, Fannie Mae, Freddie Mac and MBA expect origination volume to be in the \$1.5-\$1.6 trillion range, owing to a sharp decline in refinance activity due to rising interest rates. In 2017, the share of refinances is expected to be in the 33-34 percent range, representing a drop from the 48 percent refi share in 2016. Fannie, Freddie, and MBA all forecast 2017 housing starts to total 1.25 to 1.27 million units, an increase from 2016. Home sales forecasts for 2017 range from 6.02-6.37 million, a rise from 2016 levels.

Total Originations and Refinance Shares

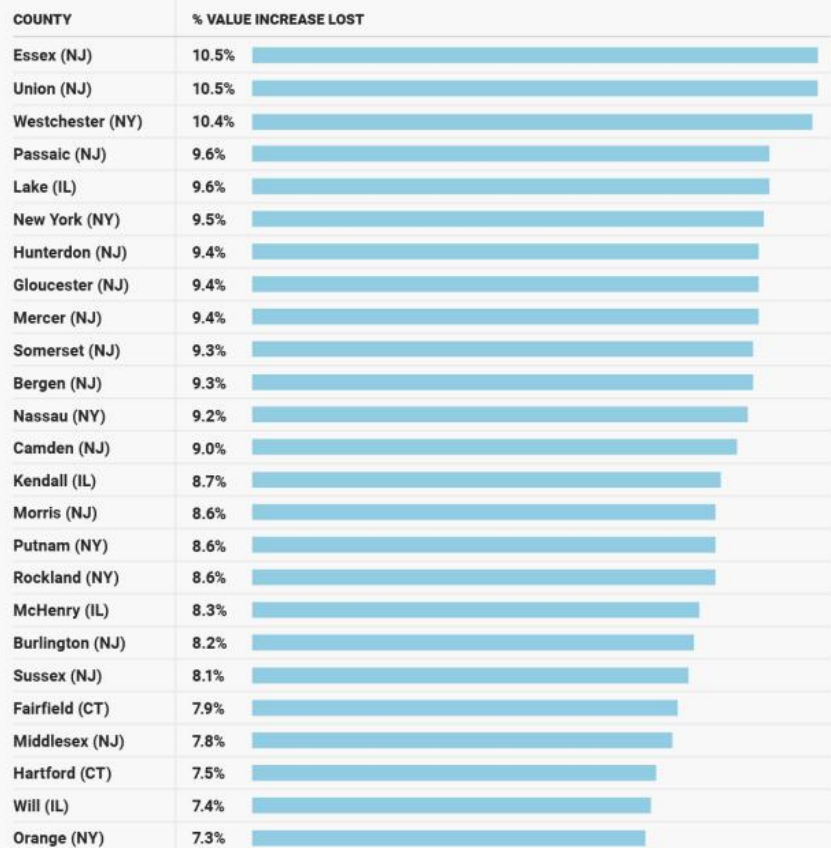
Period	Originations (\$ billions)			Refi Share (%)		
	Total, FNMA estimate	Total, FHLMC estimate	Total, MBA estimate	FNMA estimate	FHLMC estimate	MBA estimate
2017 Q1	376	397	361	46	42	41
2017 Q2	462	512	463	34	31	32
2017 Q3	423	469	440	27	30	28
2017 Q4	363	377	348	28	28	31
2018 Q1	310	306	345	32	30	30
2018 Q2	419	455	445	23	25	24
2018 Q3	425	460	443	22	24	23
2018 Q4	379	379	355	25	23	28
FY 2014	1301	1350	1261	40	39	40
FY 2015	1730	1750	1679	47	45	46
FY 2016	2052	2125	1891	48	48	48
FY 2017	1624	1545	1612	34	33	33
FY 2018	1533	1500	1588	25	25	26

Sources: Fannie Mae, Freddie Mac, Mortgage Bankers Association and Urban Institute.

Note: Shaded boxes indicate forecasted figures. All figures are estimates for total single-family market. Column labels indicate source of estimate. Regarding interest rates, the yearly averages for 2014, 2015, and 2016 were 3.6%, 3.7%, and 3.6%. For 2017, the respective projections for Fannie, Freddie, and MBA are 4.0%, 4.2%, and 4.2%.

The lower limit of \$750,000 for mortgage interest deduction combined with \$10,000 limit on deducting state and local income, sales and property taxes will have a material impact on the housing market in high tax states . . .

WHERE HOME PRICES COULD STALL AFTER TAX REFORM



Data represents the maximum amount of value homes would have earned under 2017 tax laws, but won't under tax reform.

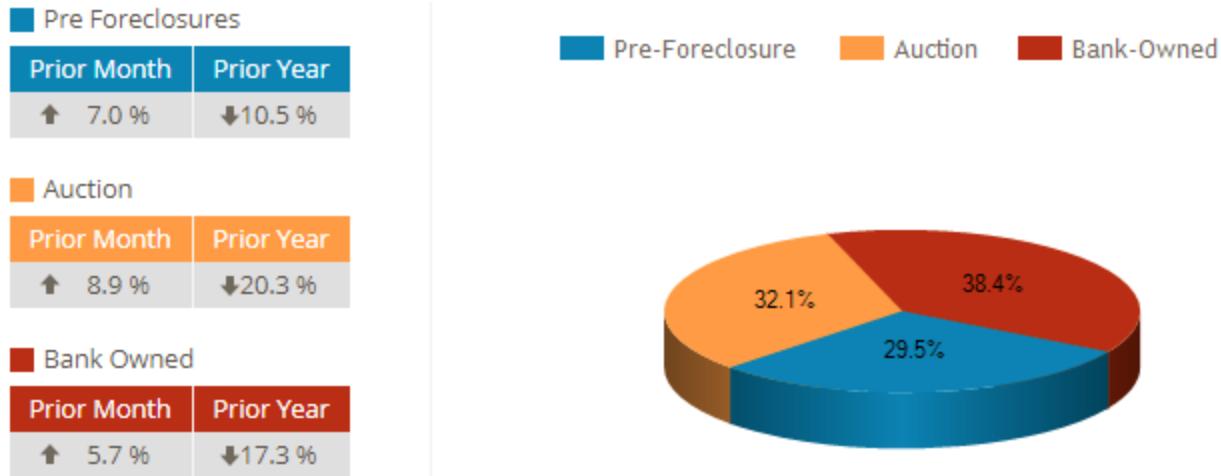
SOURCE: Moody's Analytics

BUSINESS INSIDER

The Banking Impact:

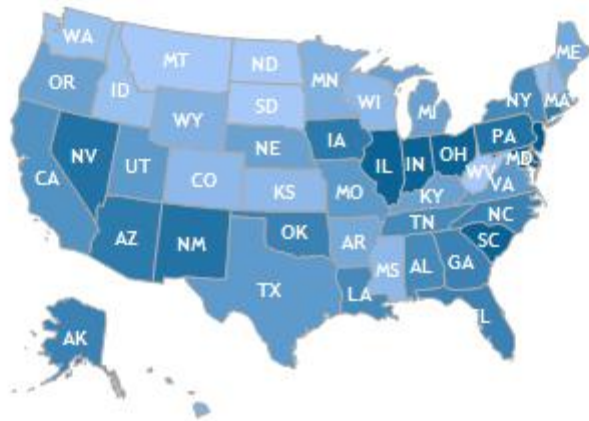
- In high tax cities and states, homeowners could lose huge dollars in deductible tax expenditures.
- For example, the average state and local tax deduction in Westchester County is \$34 thousand, which 47% of filers take.
- This legislation could affect real estate values in the Bank's market and produce other far-reaching, potentially negative economic consequences. Out-flow of residents?
- Price increases in Manhattan / metro area have slowed over the last several quarters. Pressure is seen in the luxury and ultra-luxury markets, as the general market area and other market segments continue to hold. Prices for new condo developments fell by 27% in the third quarter of 2017 compared to a year ago as reported by Douglas Elliman.

Compared to last year, foreclosure rates have decreased significantly, however the trend has substantially reversed over the past month . . .



- Nationwide : one in every 1,723 housing units.
- Among 217 MSAs with a population of at least 200,000, those with the highest foreclosure rates in April were :
 - Atlantic City, New Jersey (one in every 237 housing units with a foreclosure filing)
 - Fayetteville, North Carolina (one in every 615 housing units)
 - Trenton, New Jersey (one in every 620 housing units)
 - Rockford, Illinois (one in every 668 housing units)
 - Philadelphia (one in every 733 housing units).
- Counter to the national trend, the District of Columbia and seven states posted year-over-year increases in foreclosure activity, including New Jersey (up 1 percent); Connecticut (up 29 percent); and Massachusetts (up 3 percent).

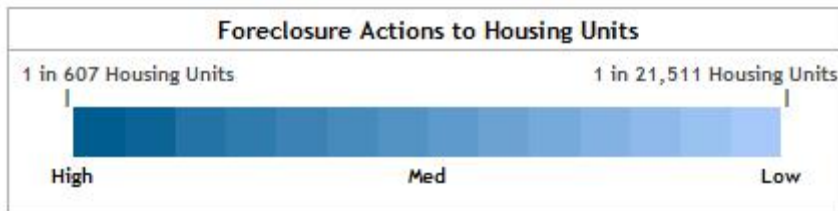
While overall foreclosure rates have improved substantially, several states continue to have elevated levels of foreclosures . . .



- States with the highest foreclosure rates :
 - New Jersey (one in every 607 housing units with a foreclosure filing)
 - Delaware (one in every 821 housing units)
 - Ohio (one in every 1,006 housing units)
 - Illinois (one in every 1,083 housing units)
 - Connecticut (one in every 1,212 housing units)

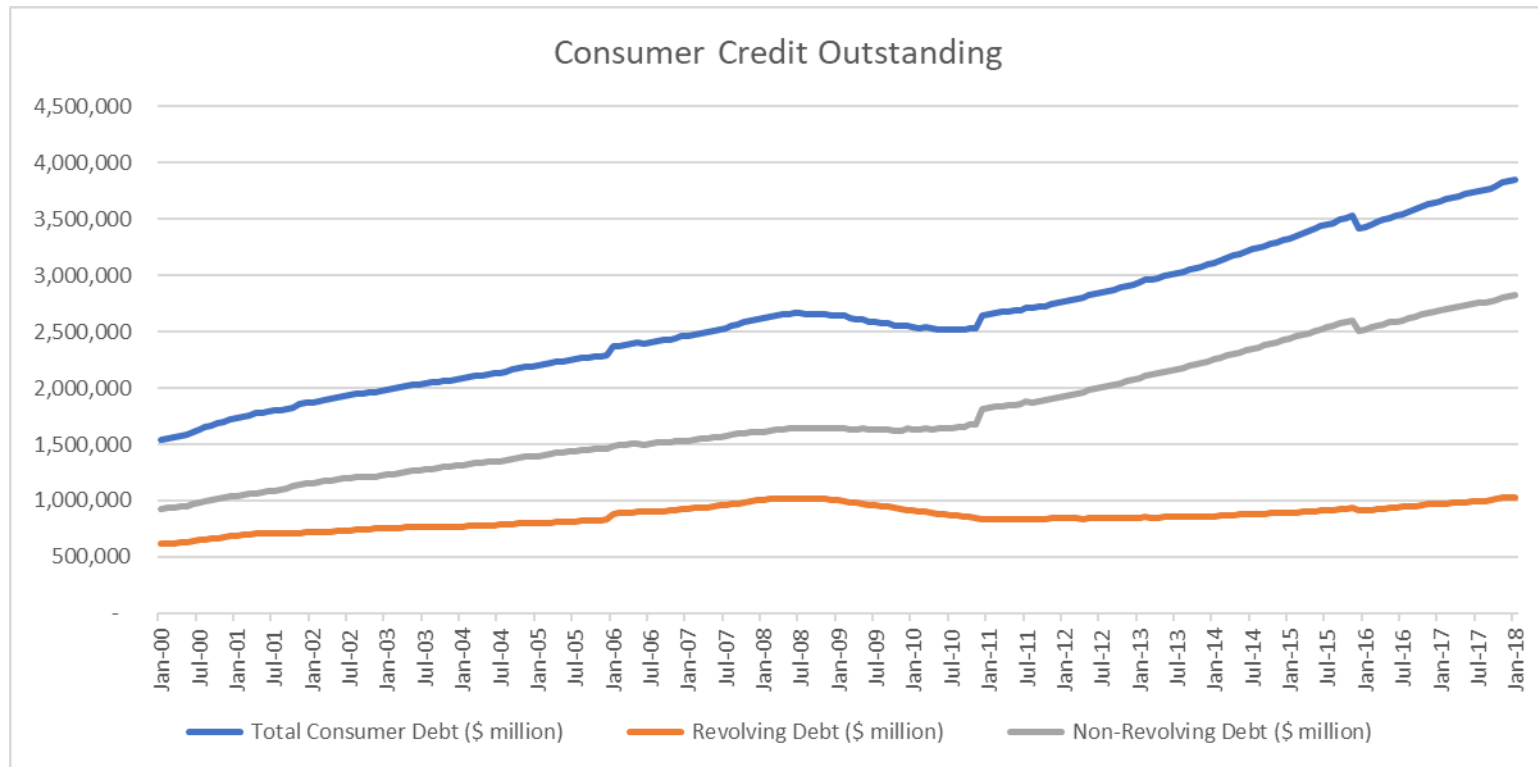
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Source: AttomData



Source: RealtyTrac LLC.

Consumer debt outstanding continues to rise at an alarming rate and is approaching \$4 trillion . . .



- Consumer debt continued to rise in 2017 and early months of 2018 total consumer debt outstanding of above \$3.8 trillion at the end of January 2018.
- Consumer debt continues to rise in both revolving and non-revolving debt with an increase of 6.14% in revolving debt and an increase of 5.10% in non-revolving debt over 2017.

Over the recent holiday season, consumer spending reached a 12 year high . . .

The Banking Impact:

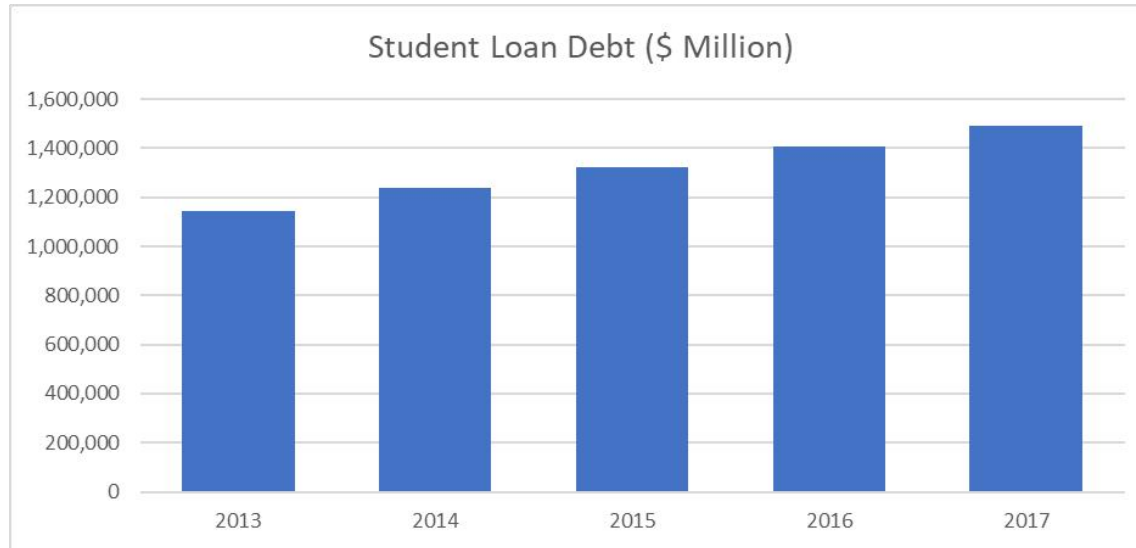
- It is estimated that average U.S. renting household spending will be \$1,002
- With the increase in personal income being less than expected, how will all this be funded? ***Debt***

**The Impact:
Credit Bubble!**

Winter Holiday Budget <i>(average American renter household)</i>	
Income	5,865
Rent	2,716
Other Expenses (Food, Gas, etc.)	2,696
Holiday Spending	1,002
Balance	(549)

- An analysis of the 50 largest cities in the U.S. showed only 24 areas where the family balance was positive.
- With higher consumer spending and less than expected personal income, these leads to a potential issue of decreased ability to service debt obligations by borrowers.

Student loan debt continued to rise in 2017 soaring above \$1.48 trillion by the end of December 2017 . . .



- In 2017 there was 44.2 million Americans with student loan debt
 - Student loan delinquency rate of 11.2% (90+ days delinquent or in default)
 - Average monthly student loan payment (for borrower aged 20 to 30 years): \$351
- With a continuing upward trend of student loans, many are looking to the Trump administration on student loan forgiveness and how this will be treated in order to combat the student loan crisis.
 - The Trump administration is looking to potentially reduce certain student loan forgiveness programs in 2018, which could lead to continued growth of this debt obligation in future years.

Thank you. We always welcome the ability to help or engage in a good conversation . . .

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